
**TARGETED BROWNFIELDS ASSESSMENT
ASBESTOS CONTAINING BUILDING MATERIALS AND
LEAD-BASED PAINT INSPECTIONS**



**Fort Wolters Texas Department of Criminal Justice Property
16.37 Acre Tract at the Southeast Corner of Cross Post Rd. and Grant Rd.
Mineral Wells (Parker County), Texas 76067**

Prepared for:

U.S. Army Corps of Engineers (USACE)
Fort Worth District
819 Taylor Street, Room 2A19
Fort Worth, Texas 76102-0300

Prepared by:

Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

Report Date: October 21, 2010

dse Project N^o : 1037503

TARGETED BROWNFIELDS ASSESSMENT
ASBESTOS CONTAINING BUILDING MATERIALS AND
LEAD-BASED PAINT INSPECTIONS

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ASBESTOS CONTAINING MATERIALS INSPECTION REPORT



Dougherty Sprague Environmental
3902 Industrial Street, Suite A
Rowlett, Texas 75088
Phone: 972-412-8666
Fax: 972-412-8660

October 21, 2010

Ms. Beverly Post
US Army Corps of Engineers, Fort Worth District
819 Taylor Street
Fort Worth, Texas 76102-0300

Re: Targeted Brownfields Assessment – Asbestos-Containing Building Materials Inspection
Fort Wolters Texas Department of Criminal Justice Property
16.37 Acre Tract
Mineral Wells, Texas 76067
dse Project No. 1037503

Dear Ms. Post:

Dougherty Sprague Environmental, Inc. (**dse**) has completed an asbestos-containing building materials inspection of the buildings located on the referenced property. The findings of our work, together with conclusions and recommendations are presented in the attached report.

We will be happy to answer any questions concerning this report. It has been a pleasure providing environmental services for US Army Corps of Engineers, Fort Worth District and we look forward to being of continued service.

A handwritten signature in blue ink that reads "Paul W. Heidgerd". The signature is written in a cursive, flowing style.

Paul W. Heidgerd
Individual Asbestos Management Planner
TDSHS License No. 205485

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TARGETED BROWNFIELDS ASSESSMENT ASBESTOS CONTAINING BUILDING MATERIALS INSPECTION REPORT

**Fort Wolters Texas Department of Criminal Justice Property
16.37 Acre Tract at the Southeast Corner of Cross Post Rd. and Grant Rd.
Mineral Wells (Parker County), Texas 76067**

dse Project Number: 1037503

1.0 SUMMARY

On September 21 and 22, 2010, Dougherty Sprague Environmental, Inc. (**dse**), as authorized by Ms. Jennifer Miller, Contract Specialist for the United States Army Corp of Engineers (USACE), conducted an inspection for the presence of asbestos-containing building materials (ACBMs) in the eight buildings located on the Fort Wolters Texas Department of Criminal Justice (TDCJ) Property. The property is a 16.37 acre tract located at the southeast corner of Cross Post Road and Grant Road in Mineral Wells, Texas (Subject Property). This assessment is being provided to the City of Mineral Wells through the U.S. Environmental Protection Agency (EPA) Region 6 Targeted Brownfields Assessment (TBA) program.

The purpose of the asbestos inspection was to identify, assess, sample and analyze suspect ACBM's in preparation for the possible renovation or demolition of the buildings. The inspection focused on identifying and sampling suspect ACBM's that would be disturbed during renovation or demolition of the buildings. No previous asbestos inspections or abatement reports for the buildings on the Subject Property were provided to the inspectors.

The asbestos inspection was performed by **dse** employees Paul Heidgerd and David Horn (inspectors), who are licensed to perform asbestos inspections by the Texas Department of State Health Services (TDSHS). The inspectors collected 135 bulk samples from the suspect ACBMs identified. Eight of the 135 samples were duplicate samples collected for Quality Assurance (QA) purposes. All of the samples were submitted to Cates Laboratories in Forney, Texas for polarized light microscopy (PLM) analysis.

The EPA has defined an ACBM as a building material that has an asbestos content greater than 1% as determined by PLM analysis. In Texas, building demolition and renovation activities that will potentially disturb any identified ACBMs are regulated by the TDSHS. ACBM's that will be disturbed during the renovation of a public building must be abated before the renovation activities begin; either by removal, encapsulation or enclosure. The TDSHS may allow some types of ACBM's to remain in place during demolition of a public building if the demolition contractor can meet several stringent requirements; however, most ACBM's must be removed before a demolition begins. ACBM's may remain in-place during demolition if a Professional Engineer determines the building is not structurally stable and not safe for abatement workers to enter. Abatement of ACBM's must be performed by an Asbestos Abatement Contractor licensed by the TDSHS and must be monitored by an Asbestos Consultant licensed by the TDSHS. The

TDSHS must be notified in writing a minimum of ten working days before any identified ACBM's are abated or before any public building is demolished. ACBM's in good condition that are not disturbed during building renovations do not need to be abated. Building owners who manage ACBM's in-place should have an Asbestos Operations and Maintenance Plan (O&M Plan) prepared and implemented.

The following ACBM's were identified in the eight buildings inspected. All quantities are estimated.

MOTOR POOL AREA

Building 540 ACBM's

- 3,200 ft² of Exterior Wall Shingles (Transite) - 15% Chrysotile Asbestos
- 191 ft² of Exterior Soffit (Transite) - 15% Chrysotile Asbestos
- 8 ft of 2" diam. Pipe Insulation - 15% Amosite, 5% Chrysotile Asbestos
- 20 ft of 2" diam. Pipe Insulation Debris - 15% Amosite, 5% Chrysotile Asbestos
- 1,829 ft² of Drywall/Joint Compound on Walls and Ceilings - 3% Chrysotile Asbestos
- 366 ft² of Window Glazing and Caulking Compound - 2 to 3% Chrysotile Asbestos

Building 541 ACBM's

- 3,200 ft² of Exterior Wall Shingles (Transite) - 15% Chrysotile Asbestos
- 191 ft² of Exterior Soffit (Transite) - 15% Chrysotile Asbestos
- 8 ft of 2" diam. Pipe Insulation - 15% Amosite, 5% Chrysotile Asbestos
- 1,829 ft² of Drywall/Joint Compound on Walls and Ceilings - 3% Chrysotile Asbestos
- 396 ft² of Window Glazing and Caulking Compound - 2 to 5% Chrysotile Asbestos

Building 578 ACBM

- 485 ft² of Drywall/Joint Compound on Walls and Ceilings - 5% Chrysotile Asbestos

ACADEMIC AREA

Building 551 ACBM's

- 3,167 ft² of 9" x 9" Green Vinyl Composite Tile (VCT) Flooring/Black Mastic - 5% Chrysotile Asbestos in VCT and 5% Chrysotile Asbestos in the Mastic
- 6,464 ft² of Exterior Wall Shingles (Transite) - 20% Chrysotile Asbestos
- 324 ft² of Exterior Porch Roofs (Transite) - 20% Chrysotile Asbestos
- 672 ft² of Panels on the Boiler Room Walls (Transite) - 20% Chrysotile Asbestos
- 200 ft of 2" diam. Pipe Insulation and Debris - 15% Amosite, 65% Chrysotile Asbestos
- 30 ft of HVAC Duct Vibration Gaskets - Inaccessible: Assumed to be ACBM's
- 80 ft² of Thermal System Insulation on the Furnace, Flue and Balance Tank - 15% Amosite, 75% Chrysotile Asbestos
- 64 ft³ of Cooling Tower Internal Baffling - 75% Chrysotile Asbestos
- 13,408 ft² of Drywall/Joint Compound on Walls - 3% Chrysotile Asbestos
- 614 ft² of Window Glazing Compound - 2% Chrysotile Asbestos

Building 552 ACBM's

- 5,031 ft² of 9" x 9" Green VCT Flooring/Black Mastic - 5% Chrysotile Asbestos in VCT and 5% Chrysotile Asbestos in the Mastic
- 6,464 ft² of Exterior Wall Shingles (Transite) - 20% Chrysotile Asbestos
- 288 ft² of Exterior Porch Roofs (Transite) - 20% Chrysotile Asbestos
- 672 ft² of Panels on the Boiler Room Walls (Transite) - 20% Chrysotile Asbestos
- 200 ft of 2" diam. Pipe Insulation and Debris - 15% Amosite, 65% Chrysotile Asbestos
- 30 ft of HVAC Duct Vibration Gaskets - Inaccessible: Assumed to be ACBM's
- 80 ft² of Thermal System Insulation on the Furnace, Flue and Balance Tank - 15% Amosite, 75% Chrysotile Asbestos
- 64 ft³ of Cooling Tower Internal baffling - 75% Chrysotile Asbestos
- 13,312 ft² of Drywall/Joint Compound on Walls - 3% Chrysotile Asbestos
- 315 ft² of Window Glazing Compound - 2% Chrysotile Asbestos

Building 571 ACBM's

- 5,255 ft² of 9"x 9" Green VCT Flooring/Black Mastic - 5% Chrysotile Asbestos in VCT and 5% Chrysotile Asbestos in the Mastic
- 28 ft² of Acoustical Ceiling Panel Debris - 5% Amosite
- 6,000 ft² of Roofing Debris - 5% Chrysotile Asbestos

Building 575 ACBM's

- 6,209 ft² of 9"x 9" Green VCT Flooring/Black Mastic - 5% Chrysotile Asbestos in VCT and 5% Chrysotile Asbestos in the Mastic
- 4,264 ft² of Suspended Acoustical Ceiling Panels - 5% Amosite
- 10,829 ft² of Drywall/Joint Compound on Walls and Ceilings - 5% Chrysotile Asbestos

Building 576 ACBM's

- 7,167 ft² of 9"x 9" Green VCT Flooring/Black Mastic - 10% Chrysotile Asbestos in VCT and 5% Chrysotile Asbestos in the Mastic
- 15,885 ft² of Drywall/Joint Compound on Walls and Ceilings - 3 to 5% Chrysotile Asbestos
- 232 ft² of Wall Panel Mastic - 5% Chrysotile Asbestos

The roofs were inaccessible and structurally unstable at the time of the inspection. Samples of roofing materials were collected from debris on collapsed roof structures or below large holes in the roofs. The asphalt roofing products were all in generally poor condition. The roofs of Building 575, Building 576, Building 578, and the additions to Building 540 and Building 541 were corrugated steel with no suspect ACBMs observed. No asbestos was detected in the asphalt roofing products samples collected from Buildings 540 and 551. Asbestos was detected in the roofing material sample collected from Building 571 and it was classified as a National Emission Standards for Hazardous Air Pollutants (NESHAPS) Regulated Asbestos Containing Material (RACM) because it has a high probability of becoming, or has become, friable by the forces expected to act on the material in the course of demolition or renovation. The asphalt roofing products on Building 571 were severally weathered and the roof structure had collapsed onto the floor within the building walls.

In addition to the ACBM asphalt roofing product identified in Building 571, all of the other ACBM's identified were classified as NESHAPS RACM because all of the materials were severely damaged due to vandalism, exposure to the elements and age.

All of the buildings on the Subject Property should be secured to prevent access by unauthorized personnel until the ACBM's identified can be abated. The ACBM's identified in the buildings should be removed before the buildings are demolished because they are in severely damaged condition and friable or will most likely become friable during demolition.

2.0 BUILDING DESCRIPTIONS

The buildings on the Subject Property were mostly accessible during the inspection; however, the buildings were in significantly damaged condition, poorly lighted and open to the elements. The roof decks of Buildings 540, 541, 551 and 552 were in very poor condition, the floors and walls in Building 571 were buried under the collapsed roof framing and deck, and the supporting walls and access stairways of the lofts in Buildings 540 and 541 were severely rotted, which prevented a thorough inspection of those areas.

Name: Building 540	Inspection Date: September 21, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Motor Pool, Vehicle Maintenance	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: Original Building (wood) 2,975 ft ² , Addition (steel) 3,250 ft ²	
Number of Floors: One	Basement: No
Attic: Loft over Office/Parts Room/Bathroom	Crawl Space: No
Exterior: Original - Cementitious ACBM Shingles (Transite) Addition - Corrugated Steel Panels	
Foundation: Concrete slabs	
Interior Framing: Original – wood 2x4 studs, Addition - steel	
Interior Wall Finishes: Drywall, with taped and bedded joints in Office, Parts Room, Bathroom	
Interior Ceiling Finishes: Drywall, with taped and bedded joints in Office, Parts Room, Bathroom	
Lighting: Primarily fluorescent with some incandescent (Parts Room, Bathroom, Security).	
HVAC: Overhead Modine-style heaters	
Domestic Hot Water: 50-gal gas hot water heater in bathroom	
Out Buildings: None	
Elevators: None	
Previous Asbestos Inspections: No previous asbestos inspection or abatement reports were available.	
Planned Renovations: Unknown	
Planned Demolition: Unknown	

Name: Building 541	Inspection Date: September 21, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Motor Pool, Vehicle Maintenance	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: Original Building (wood) 2,975 ft ² , Addition (steel) 5,500 ft ² .	
Number of Floors: One	Basement: No
Attic: Loft over office/Parts Room/Bathroom	Crawl Space: No
Exterior: Original - Cementitious ACBM Shingles (Transite) Addition - Corrugated Steel Panels	
Foundation: Concrete slabs	
Interior Framing: Original – wood 2x4 studs, Addition - steel	
Interior Wall Finishes: Drywall, with taped and bedded joints in Office, Parts Room, Bathroom	
Interior Ceiling Finishes: Drywall, with taped and bedded joints in Office, Parts Room, Bathroom	
Lighting: Primarily fluorescent with some incandescent (Parts Room, Bathroom, Security).	
HVAC: Overhead Modine-style heaters	
Domestic Hot Water: 50-gal gas hot water heater in bathroom	
Out Buildings: None	
Elevators: None	
Previous Asbestos Inspections: No previous asbestos inspection or abatement reports were available.	
Planned Renovations: Unknown	
Planned Demolition: Unknown	

Name: Building 578	Inspection Date: September 21, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Office	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: 200 ft ²	
Number of Floors: One	Basement: No
Attic: No	Crawl Space: No
Exterior: Corrugated steel panels	
Foundation: Concrete slab	
Interior Framing: Steel	
Interior Wall Finishes: Drywall with taped and bedded joints	
Interior Ceiling Finishes: Drywall with taped and bedded joints	
Lighting: Fluorescent and Incandescent	
HVAC: None	
Domestic Hot Water: None	
Out Buildings: None	
Elevators: None	
Previous Asbestos Inspections: No previous asbestos inspection or abatement reports were available.	
Planned Renovations: Unknown	
Planned Demolition: Unknown	

Name: Building 551	Inspection Date: September 22, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Classrooms	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: 5,425 ft ²	
Number of Floors: One	Basement: No
Attic: No	Crawl Space: No
Exterior: Cementitious ACBM Shingles (Transite)	
Foundation: Concrete slabs	
Interior Framing: Wood	
Interior Wall Finishes: Drywall, with taped and bedded seams. Transite lined boiler room.	
Interior Ceiling Finishes: None, open to underside of roof deck	
Lighting: Fluorescent	
HVAC: Interior gas furnace and air handlers. Exterior cooling tower.	
Domestic Hot Water: Originally boiler, replaced with 50-gal. SFR water heater (gas)	
Out Buildings: None, 6x6 attached fire sprinkler room at NE corner	
Elevators: None	
Previous Asbestos Inspections: No previous asbestos inspection or abatement reports were available.	
Planned Renovations: Unknown	
Planned Demolition: Unknown	

Name: Building 552	Inspection Date: September 22, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Classrooms	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: 5,425 ft ²	
Number of Floors: One	Basement: No
Attic: No	Crawl Space: No
Exterior: Cementitious ACBM Shingles (Transite)	
Foundation: Concrete slabs	
Interior Framing: Wood	
Interior Wall Finishes: Drywall, with taped and bedded seams. Transite lined boiler room.	
Interior Ceiling Finishes: Foil-faced fiberglass panels attached to underside of wood roof deck. Room 3 - 1'x1' acoustical ceiling panels. Room 4 - 2' x 4' suspended plastic panels.	
Lighting: Fluorescent	
HVAC: Exterior cooling tower, interior air handlers, interior gas furnace	
Domestic Hot Water: Originally boiler, replaced with 50-gal. SFR water heater (gas)	
Out Buildings: None, 6x6 attached fire sprinkler room at NW corner	
Elevators: None	
Previous Asbestos Inspections: No previous asbestos inspection or abatement reports were available.	
Planned Renovations: Unknown	
Planned Demolition: Unknown	

Name: Building 571	Inspection Date: September 22, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Classrooms	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: ~5,600 ft ²	
Number of Floors: One	Basement: No
Attic: No	Crawl Space: No
Exterior: Concrete Masonry Units (CMU)	
Foundation: Concrete slabs	
Interior Framing: CMU	
Interior Wall Finishes: Plaster applied directly to CMU's	
Interior Ceiling Finishes: Suspended 2' x 4' Acoustical Tile	
Lighting: Fluorescent	
HVAC: None observed, duct work visible (collapsed roof)	
Domestic Hot Water: None observed (collapsed roof)	
Out Buildings: None	
Elevators: None	
Previous Asbestos Inspections: No previous asbestos inspection or abatement reports were available.	
Planned Renovations: Unknown	
Planned Demolition: Unknown	

Name: Building 575	Inspection Date: September 22, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Classrooms	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: 7,200 ft ²	
Number of Floors: One	Basement: No
Attic: No	Crawl Space: No
Exterior: Corrugated steel panels	
Foundation: Concrete slabs	
Interior Framing: Steel	
Interior Wall Finishes: Drywall with taped and bedded seams	
Interior Ceiling Finishes: Suspended 2x4 acoustical tile	
Lighting: Fluorescent	
HVAC: Gas heat with furnace, electric AC with air handler (vandalized)	
Domestic Hot Water: Unknown – did have water (bathroom & showers)	
Out Buildings: None	
Elevators: None	
Previous Asbestos Inspections: No previous asbestos inspection or abatement reports were available.	
Planned Renovations: Unknown	
Planned Demolition: Unknown	
Notes: A small area of fire damage was observed on one wall in the southwest corner room of the building.	

Name: Building 576	Inspection Date: September 21, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Classrooms	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: ~ 8,100 ft ²	
Number of Floors: One	Basement: No
Attic: No	Crawl Space: No
Exterior: Corrugated steel panels	
Foundation: Concrete slabs	
Interior Framing: Steel	
Interior Wall Finishes: Drywall, with taped and bedded seams	
Interior Ceiling Finishes: Drywall and 2x4 suspended acoustical tile	
Lighting: Fluorescent	
HVAC: Gas furnace, electric AC w/air handlers and ducts (vandalized)	
Domestic Hot Water: Unknown – did have water (bathroom & showers)	
Out Buildings: None	
Elevators: None	
Previous Asbestos Inspections: No previous asbestos inspection or abatement reports were available.	
Planned Renovations: Unknown	
Planned Demolition: Unknown	

3.0 INSPECTION

On September 21 and 22, 2010, Dougherty Sprague Environmental, Inc. (**dse**), as authorized by Ms. Jennifer Miller, Contract Specialist for the United States Army Corp of Engineers (USACE), conducted an inspection for the presence of asbestos-containing building materials (ACBMs) in the eight buildings located on the Fort Wolters Texas Department of Criminal Justice (TDCJ) Property. The property is a 16.37 acre tract located at the southeast corner of Cross Post Road and Grant Road in Mineral Wells, Texas (Subject Property).

The asbestos inspection was performed by **dse** employees Paul Heidgerd and David Horn (inspectors), who are licensed to perform asbestos inspections by the Texas Department of State Health Services (TDSHS). Copies of these licenses are attached in **Appendix H**. The inspectors collected 135 bulk samples from the suspect ACBMs identified. Eight of the 135 samples were duplicate samples collected for QA purposes. All of the samples were submitted to Cates Laboratories in Forney, Texas for polarized light microscopy (PLM) analysis.

The purpose of the asbestos inspection was to identify, assess, sample and analyze suspect ACBM's in preparation for the possible renovation or demolition of the buildings on the Subject Property. The inspection focused on identifying and sampling suspect ACBM's that would potentially be disturbed during renovation or demolition of the buildings. No previous asbestos inspection reports or abatement reports for the buildings on the Subject Property were provided to the inspectors. **Appendix A** provides useful background information about asbestos as well as helpful guidance distributed by the TDSHS. The TDSHS administers and enforces the Texas Asbestos Health Protection Rules (TAHPR's).

This asbestos inspection was performed in general accordance with guidelines established by TDSHS and the AHERA protocols. The AHERA protocols define criteria for inspections of suspect ACBM's in school buildings and have been adopted by the TDSHS as guidelines for performing inspection of public buildings in Texas. **Appendix B** outlines **dse's** Asbestos Inspection Protocol.

Eight buildings were inspected on the Subject Property. The buildings were reportedly built before 1959 with a variety of architectural styles and materials. Buildings 540, 541 and 578 were located in a former Motor Pool Area. The northern portions of Buildings 540 and 541 had identical floor plans and appeared to have been built at the same time using identical materials and methods. Buildings 551, 552, 571, 575 and 576 were located in a former Academic Area. Buildings 551 and 552 had nearly identical floor plans and appeared to have been built at the same time using identical materials and methods. The roof structure and deck of Building 571 had collapsed onto the ground within the walls of the structure. No previous asbestos inspection reports or abatement reports for the buildings were provided or believed to exist.

Each of the eight buildings on the Subject Property was evaluated to determine the materials and methods used to construct the building to aid in identification of suspect ACBM's. A Building Description of each of the structures was prepared and is included in Section 2.0. No building drawings were provided to the inspectors. The inspectors took approximate measurements of the buildings and prepared sketches of the building floorplans; however, the building drawings and

the quantities of ACBMs identified are strictly estimates and should not be used to solicit demolition or abatement cost estimates from contractors.

The AHERA guidelines do not require the sampling or analysis of any materials that the inspector identifies as fiberglass, foam or rubber. Accordingly, these three materials were not considered suspect ACBM's and no bulk samples were collected from them.

MOTOR POOL AREA

Building 540 - Vehicle Maintenance

The inspectors identified 11 homogeneous areas of suspect ACBM's in Building 540 and collected 20 bulk samples:

- Drywall / Joint Compound / Texture
- White Window Glazing Compound
- Gray Window Glazing Compound
- Window Caulking Compound
- 2" Thermal Pipe Wrap
- 2" Thermal Pipe Wrap Debris
- Cementitious Shingle (Transite)
- Cementitious Soffit (Transite)
- Tar Paper (Wall Shingle Underlayment)
- Asphalt Roofing Debris
- 1' x 1' Acoustical Ceiling Tile Debris

Building 541 - Vehicle Maintenance

The inspectors identified 10 homogeneous areas of suspect ACBM's in Building 541 and collected 24 bulk samples:

- Drywall / Joint Compound / Texture
- White Window Glazing Compound
- Light Gray Window Glazing Compound
- White Window Caulking Compound
- 2" Thermal Pipe Wrap
- Cementitious Shingle (Transite)
- Cementitious Soffit (Transite)
- Tar Paper (Wall Shingle Underlayment)
- 2' x 4' Acoustical Ceiling Tile

Building 578 - Offices and Store Room

The inspectors identified 3 homogeneous areas of suspect ACBM's in Building 578 and collected seven bulk samples

- Drywall / Joint Compound / Texture
- White Window Glazing Compound
- White Window Caulking

ACADEMIC AREA

Building 551 - Classrooms

The inspectors identified 17 homogeneous areas of suspect ACBM's in Building 551 and collected 31 bulk samples:

- 9" x 9" Vinyl Composite Tile (VCT) Flooring, Green with Black Mastic
- Drywall / Joint Compound / Texture
- White Window Glazing Compound
- Exterior Door Caulking Compound
- 2" Thermal Pipe Wrap
- Black Pipe Mastic
- Tar Pipe Wrap (Building 551 Only)
- Flue Insulation
- Furnace Insulation
- Vessel Insulation
- Cooling Tower Internal Baffling
- Cementitious Shingle (Transite)
- Cementitious Wall Panels (Transite)
- Cementitious Corrugated Roof Panels Over Exterior Doors (Transite)
- Tar Paper (Shingle Underlayment)
- Asphalt Roofing Debris
- HVAC Duct Vibration Gaskets - Inaccessible

Building 552 - Classrooms

The inspectors identified all but one of the same homogeneous areas of suspect ACBM's identified in Building 551 in Building 552 and collected three bulk samples from one additional homogeneous area identified:

- 1' x 1' Acoustical Wall and Ceiling Tile and Mastic (Building 552 Only)
- 9" x 9" Vinyl Composite Tile (VCT) Flooring, Green with Black Mastic
- Drywall / Joint Compound / Texture
- White Window Glazing Compound
- Exterior Door Caulking Compound
- 2" Thermal Pipe Wrap
- Black Pipe Mastic
- Flue Insulation
- Furnace Insulation
- Vessel Insulation
- Cooling Tower Internal Baffling
- Cementitious Shingle (Transite)
- Cementitious Wall Panels (Transite)
- Cementitious Corrugated Roof Panels Over Exterior Doors (Transite)
- Tar Paper (Shingle Underlayment)
- Asphalt Roofing
- HVAC Duct Vibration Gaskets - Inaccessible

-

Building 571 - Classrooms

The inspectors identified five homogeneous areas of suspect ACBM's in Building 571 and collected 12 bulk samples:

- 9" x 9" VCT Flooring, Green
- Plaster, Two Layer System
- Concrete Masonry Unit (CMU) Walls with Coating
- Asphalt Roofing Products
- 2' x 4' Acoustical Ceiling Tile Debris

Building 575 - Classrooms

The inspectors identified four homogeneous areas of suspect ACBM's in Building 575 and collected 16 bulk samples:

- 9" x 9" VCT Flooring, Green
- Drywall / Joint Compound / Texture
- 2' x 4' Suspended Acoustical Ceiling Tile Dot and Fissure Pattern
- 2' x 4' Suspended Acoustical Ceiling Tile Dot Pattern

Building 576 - Classrooms

The inspectors identified eight homogeneous areas of suspect ACBM's in Building 576 and collected 22 bulk samples:

- 9" x 9" VCT Flooring, Green
- Cove Base Mastic
- Drywall / Joint Compound / Texture
- 2' x 4' Acoustical Ceiling Tile
- Wall Panel Mastic
- White Duct Insulation Mat Mastic
- White Duct Insulation Mastic
- White Pipe Insulation Mastic
- White Pipe Insulation Elbow Mastic
- White HVAC Duct Vibration Gasket

A total of 135 bulk samples, including eight field duplicates were submitted to Cates Laboratories in Forney, Texas for analysis. All of the samples were analyzed using the polarized light microscopy (PLM) method. Eight samples were selected for analysis using the Point Count method. Cates Laboratories is licensed by the TDSHS and accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

Table 1 - Asbestos Bulk Sample Log in **Appendix C** describes the type (Surfacing, TSI or Misc.), location, friability and condition of each of the 135 bulk samples collected. The **Asbestos Inspection Building Floorplans** in **Appendix D** show the location of each of the bulk samples collected. The **Photo Log** in **Appendix F** contains photographs of selected sample locations and finishes.

4.0 FINDINGS

The 135 suspect ACBM bulk samples were delivered to Cates Laboratories in Forney, Texas for analysis. Cates Laboratories is licensed by the TDSHS and accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). The bulk samples were analyzed by polarized light microscopy (PLM) coupled with dispersion staining techniques in accordance with the 1982 Federal Regulations in 40 CFR 763, Subpart F. Copies of the Laboratory Reports and Chain of Custody are included in **Appendix E**.

ACBM's were identified in all eight of the buildings inspected. The ACBMs identified and estimated quantities are listed below.

MOTOR POOL AREA

Building 540 ACBM's

- 3,200 ft² of Exterior Wall Shingles (Transite) - 15% Chrysotile Asbestos
- 191 ft² of Exterior Soffit (Transite) - 15% Chrysotile Asbestos
- 8 ft of 2" diam. Pipe Insulation - 15% Amosite, 5% Chrysotile Asbestos
- 20 ft of 2" diam. Pipe Insulation Debris - 15% Amosite, 5% Chrysotile Asbestos
- 1,829 ft² of Drywall/Joint Compound on Walls and Ceilings - 3% Chrysotile Asbestos
- 366 ft² of Window Glazing and Caulking Compound - 2 to 3% Chrysotile Asbestos

Building 541 ACBM's

- 3,200 ft² of Exterior Wall Shingles (Transite) - 15% Chrysotile Asbestos
- 191 ft² of Exterior Soffit (Transite) - 15% Chrysotile Asbestos
- 8 ft of 2" diam. Pipe Insulation - 15% Amosite, 5% Chrysotile Asbestos
- 1,829 ft² of Drywall/Joint Compound on Walls and Ceilings - 3% Chrysotile Asbestos
- 396 ft² of Window Glazing and Caulking Compound - 2 to 5% Chrysotile Asbestos

Building 578 ACBM

- 485 ft² of Drywall/Joint Compound on Walls and Ceilings - 5% Chrysotile Asbestos

ACADEMIC AREA

Building 551 ACBM's

- 3,167 ft² of 9" x 9" Green Vinyl Composite Tile (VCT) Flooring/Black Mastic - 5% Chrysotile Asbestos in VCT and 5% Chrysotile Asbestos in the Mastic
- 6,464 ft² of Exterior Wall Shingles (Transite) - 20% Chrysotile Asbestos
- 324 ft² of Exterior Porch Roofs (Transite) - 20% Chrysotile Asbestos
- 672 ft² of Panels on the Boiler Room Walls (Transite) - 20% Chrysotile Asbestos
- 200 ft of 2" diam. Pipe Insulation and Debris - 15% Amosite, 65% Chrysotile Asbestos
- 30 ft of HVAC Duct Vibration Gaskets - Inaccessible: Assumed to be ACBM's

- 80 ft² of Thermal System Insulation on the Furnace, Flue and Balance Tank - 15% Amosite, 75% Chrysotile Asbestos
- 64 ft³ of Cooling Tower Internal Baffling - 75% Chrysotile Asbestos
- 13,408 ft² of Drywall/Joint Compound on Walls - 3% Chrysotile Asbestos
- 614 ft² of Window Glazing Compound - 2% Chrysotile Asbestos

Building 552 ACBM's

- 5,031 ft² of 9" x 9" Green VCT Flooring/Black Mastic - 5% Chrysotile Asbestos in VCT and 5% Chrysotile Asbestos in the Mastic
- 6,464 ft² of Exterior Wall Shingles (Transite) - 20% Chrysotile Asbestos
- 288 ft² of Exterior Porch Roofs (Transite) - 20% Chrysotile Asbestos
- 672 ft² of Panels on the Boiler Room Walls (Transite) - 20% Chrysotile Asbestos
- 200 ft of 2" diam. Pipe Insulation and Debris - 15% Amosite, 65% Chrysotile Asbestos
- 30 ft of HVAC Duct Vibration Gaskets - Inaccessible: Assumed to be ACBM's
- 80 ft² of Thermal System Insulation on the Furnace, Flue and Balance Tank - 15% Amosite, 75% Chrysotile Asbestos
- 64 ft³ of Cooling Tower Internal baffling - 75% Chrysotile Asbestos
- 13,312 ft² of Drywall/Joint Compound on Walls - 3% Chrysotile Asbestos
- 315 ft² of Window Glazing Compound - 2% Chrysotile Asbestos

Building 571 ACBM's

- 5,255 ft² of 9"x 9" Green VCT Flooring/Black Mastic - 5% Chrysotile Asbestos in VCT and 5% Chrysotile Asbestos in the Mastic
- 28 ft² of Acoustical Ceiling Panel Debris - 5% Amosite
- 6,000 ft² of Roofing Debris - 5% Chrysotile Asbestos

Building 575 ACBM's

- 6,209 ft² of 9"x 9" Green VCT Flooring/Black Mastic - 5% Chrysotile Asbestos in VCT and 5% Chrysotile Asbestos in the Mastic
- 4,264 ft² of Suspended Acoustical Ceiling Panels - 5% Amosite
- 10,829 ft² of Drywall/Joint Compound on Walls and Ceilings - 5% Chrysotile Asbestos

Building 576 ACBM's

- 7,167 ft² of 9"x 9" Green VCT Flooring/Black Mastic - 10% Chrysotile Asbestos in VCT and 5% Chrysotile Asbestos in the Mastic
- 15,885 ft² of Drywall/Joint Compound on Walls and Ceilings - 3 to 5% Chrysotile Asbestos
- 232 ft² of Wall Panel Mastic - 5% Chrysotile Asbestos

All of the ACBM's identified in the buildings were classified as NESHAPS RACM because all of the materials were severely damaged due to vandalism, exposure to the elements and age.

ABATEMENT COST ESTIMATE

An asbestos abatement cost estimate is included in **Appendix G**. Approximate square footages of asbestos containing materials are given for informational purposes only. If these numbers are used in Abatement Specifications, it is the responsibility of the Asbestos Abatement Contractor to confirm the estimated quantities.

QUALITY ASSURANCE

Duplicate Samples

Of the 135 bulk samples submitted to the laboratory, eight were field duplicates collected by splitting another sample in half.

Building	Material	Duplicate Sample ID	Duplicate Sample Asbestos Content	Source Sample ID	Source Sample Asbestos Content
540	WG	J01	2% Chrysotile	B02	2% Chrysotile
541	DW/JC	K01	3% Chrysotile	C03	3% Chrysotile
551	TSI	V01	None Detected	D02	None Detected
551	VCT	U01	5% / 5% Chrysotile	A01	5% / 5% Chrysotile
571	Plaster	E01	None Detected	A02	None Detected
575	VCT	F01	5% / 5% Chrysotile	A01	5% / 5% Chrysotile
576	ACT	L01	None Detected	C02	None Detected
576	TSI	K01	None Detected	J01	None Detected

The laboratory correctly identified the asbestos content in each of the eight duplicate samples submitted.

Point Counting

Eight friable bulk samples with an asbestos content of 10% or lower were selected for point counting.

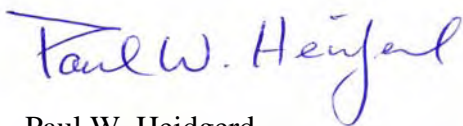
Building	Sample ID	Asbestos Content by PLM	Asbestos Content by Point Count
551	B03	3% Chrysotile	1.50% Chrysotile
540	A01	2% Chrysotile	2.25% Chrysotile
540	B01	2% Chrysotile	0.50% Chrysotile
541	A03	2% Chrysotile	1.50% Chrysotile
541	C01	3% Chrysotile	2.75% Chrysotile
576	B02	3% Chrysotile	2.50% Chrysotile
575	B01	5% Chrysotile	3.25% Chrysotile
575	D01	5% Amosite	6.00% Amosite

Point Count analysis results confirmed the PLM analyses results in each of the eight samples selected for Point Count analysis.

5.0 RECOMMENDATIONS

The EPA has defined an ACBM as a building material that has an asbestos content greater than 1% as determined by PLM analysis. In Texas, building demolition and renovation activities that will potentially disturb any identified ACBMs are regulated by the TDSHS. ACBM's that will be disturbed during the renovation of a public building must be abated before the renovation activities begin; either by removal, encapsulation or enclosure. The TDSHS may allow some types of ACBM's to remain in place during demolition of a public building if the demolition contractor can meet several stringent requirements; however, most ACBM's must be removed before a demolition begins. ACBM's may remain in-place during demolition if a Professional Engineer determines the building is not structurally stable and not safe for abatement workers to enter. Abatement of ACBM's must be performed by an Asbestos Abatement Contractor licensed by the TDSHS and must be monitored by an Asbestos Consultant licensed by the TDSHS. The TDSHS must be notified in writing a minimum of ten working days before any identified ACBM's are abated or before any public building is demolished. ACBM's in good condition that are not disturbed during building renovations do not need to be abated. Building owners who manage ACBM's in-place should have an Asbestos Operations and Maintenance Plan (O&M Plan) prepared and implemented.

All of the buildings on the Subject Property should be secured to prevent access by unauthorized personnel until the ACBM's identified can be abated. The ACBM's identified in the buildings should be abated before the buildings are demolished because they are in severely damaged condition and friable or will most likely become friable during demolition.



Paul W. Heidgerd
Individual Asbestos Management Planner
TDSHS License No. 205485

6.0 LIMITATIONS

This asbestos inspection of the buildings at the Fort Wolters TDCJ Property in Mineral Wells, Texas was performed on September 21 and 22, 2010. The inspection was limited to the accessible areas of the eight identified remaining structures on the Subject Property. The buildings were in severely damaged condition with no lighting and debris that obscured the floors in many areas.

This asbestos inspection was performed in general accordance to the AHERA inspection protocol. The inspection was conducted to identify suspect ACBM's that could foreseeably be disturbed during the demolition or renovation of the buildings on the Subject Property.

The potential exists that some suspect ACBM's were not observed by the inspector due to the generally poor condition of the buildings. If suspect ACBM's that were not observed by, or inaccessible to, the inspector at the time of the inspection are encountered during demolition of the buildings, this inspection will need to be updated to include those suspect ACBM's.

The assessment, sampling and analysis of suspect ACBM's are highly interpretive activities. Great variability can be experienced in sampling results due to the nature of building construction materials and techniques, even with experienced personnel and careful sample collection. **dse** conducted this asbestos inspection using trained professionals following applicable government regulations and guidelines, and utilizing a reasonable "Standard of Care", but cannot represent guarantees or warrantee results. This sampling indicates conditions only at the time of sampling in the locations sampled. Conditions at other locations and times may vary significantly from these results, which are by budget, accessibility and time constraints.

In order to understand all of the implications of this report, this entire report, including all attachments and appendices, must be read and understood. Any reader failing to read the entire report can not hold **dse** responsible for any liabilities arising from this failure. If a reader has any questions about this report, its contents and/or conclusions, the reader should contact **dse** for clarification.

No warranty is expressed or implied by this report of the asbestos inspection described herein. The limit of liability for omissions or errors, if identified, shall be the cost of these services rendered by **dse** to the USACE. No use of this report is authorized except as expressly discussed within. Furthermore, as this report is intended for the sole use of the USACE, the EPA and the City of Mineral Wells (CLIENTS), reliance is not authorized to other parties except as clearly described in writing by both the CLIENTS and **dse**.

APPENDIX A

Background Information About Asbestos TDSHS Asbestos Information

BACKGROUND INFORMATION ABOUT ASBESTOS

Asbestos is a naturally occurring fibrous mineral. There are two major types of asbestos: amphiboles and serpentine. The amphiboles include amosite, anthophyllite, actinolite, crocidolite and tremolite. Serpentine includes chrysotile asbestos, which is the most common form of asbestos found in the United States. Its properties have been known for thousands of years. The Egyptians, Greeks and Romans all knew of asbestos and used it for its fire resistive properties. Not only is asbestos fire resistant, it is chemically and electrically inert, and it is very strong. These properties make asbestos a “natural” for use as a building material constituent, to enhance the performance of such materials.

The property that can make asbestos hazardous is its fibrous structure. Minerals can be crushed to make smaller pieces. However, when asbestos is crushed, it splits lengthwise (i.e., along its long axis). This makes thinner and thinner fibers. As the fibers get thinner and thinner, their aerodynamic properties improve, allowing them to stay airborne longer and increase the potential for exposure once they are disturbed.

Asbestos is a known human carcinogen. Exposure to airborne asbestos can cause asbestosis, lung cancer, mesothelioma, and other types of cancer. The use of asbestos in construction materials has raised concern about exposure to airborne asbestos in some buildings. If an asbestos containing building material (ACBM) remains in good condition and is unlikely to be disturbed, the potential for exposure will be negligible. However, when ACBM is damaged or disturbed, asbestos fibers can be released, creating a potential hazard for building occupants.

Since the 1940's, asbestos has been included in such building products as spray-applied fireproofing, mechanical pipe and equipment insulation, acoustical plaster, acoustical ceiling tile, various mastics, adhesives, sealants, and resilient flooring. A list of suspect ACBM's prepared by the TDSHS is attached at the end of this section. EPA has estimated that 40%-60% of all buildings constructed or renovated in the United States since the 1940's have some type of ACBM in them.

It must be emphasized that the presence of ACBM's alone does not imply exposure; fibers must first be released from the material, become airborne and then must be inhaled. The greatest concern is ACBM's that are friable (i.e., when dry, may be crumbled, pulverized or reduced to powder by hand pressure). Four indicators of possible exposure are: (1) presence of ACBM (summarized as the amount and type of ACBM), (2) the condition of the ACBM, (3) the estimated airborne asbestos fiber concentrations and (4) the accessibility of the ACBM.

Although not currently required to do so by federal law, a prudent building owner will take steps to limit building occupants' potential exposure to airborne asbestos fibers. There are five major response actions available for dealing with asbestos once its presence is identified in a building. They are: (1) operations and maintenance programs, (2) repair, (3) encapsulation, (4) enclosure and (5) removal. Typically, the first two alternatives are considered together as operations and maintenance programs often include repair activities. The other three alternatives are typically referred to as “abatement”.

Deciding how to control ACBM's is complicated; assessment requires simultaneous consideration of the type and condition of the material, timing and alternative abatement methods, as well as constraints that are specific to individual buildings. The method of choice is dependent on many factors, including condition of the ACBM and its location and accessibility.

TDSHS ASBESTOS INFORMATION

TEXAS ADMINISTRATIVE CODE

TITLE 25	HEALTH SERVICES
PART 1	DEPARTMENT OF STATE HEALTH SERVICES
CHAPTER 295	OCCUPATIONAL HEALTH
SUBCHAPTER C	TEXAS ASBESTOS HEALTH PROTECTION
RULE §295.34	Asbestos Management in Facilities and Public Buildings

(i) A person may not install building materials or replacement parts as stated in subsection (j) of this section, in a public building unless:

(1) the person obtains a required MSDS showing that the materials or replacement parts contain 1.0% or less of asbestos; or

(2) the materials or replacement parts, according to the MSDS, contain more than 1.0% asbestos but there is no alternative material or part as demonstrated by the building owner or contractor.

(j) A MSDS shall be obtained for the following building materials or replacement parts including but not to:

(1) SURFACING MATERIALS:

- (A) acoustical plaster;
- (B) decorative plaster/stucco;
- (C) textured paint/coating;
- (D) spray applied insulation;
- (E) blown-in insulation;
- (F) fireproofing insulation;
- (G) joint compound; and
- (H) spackling compounds.

(2) THERMAL SYSTEM INSULATION:

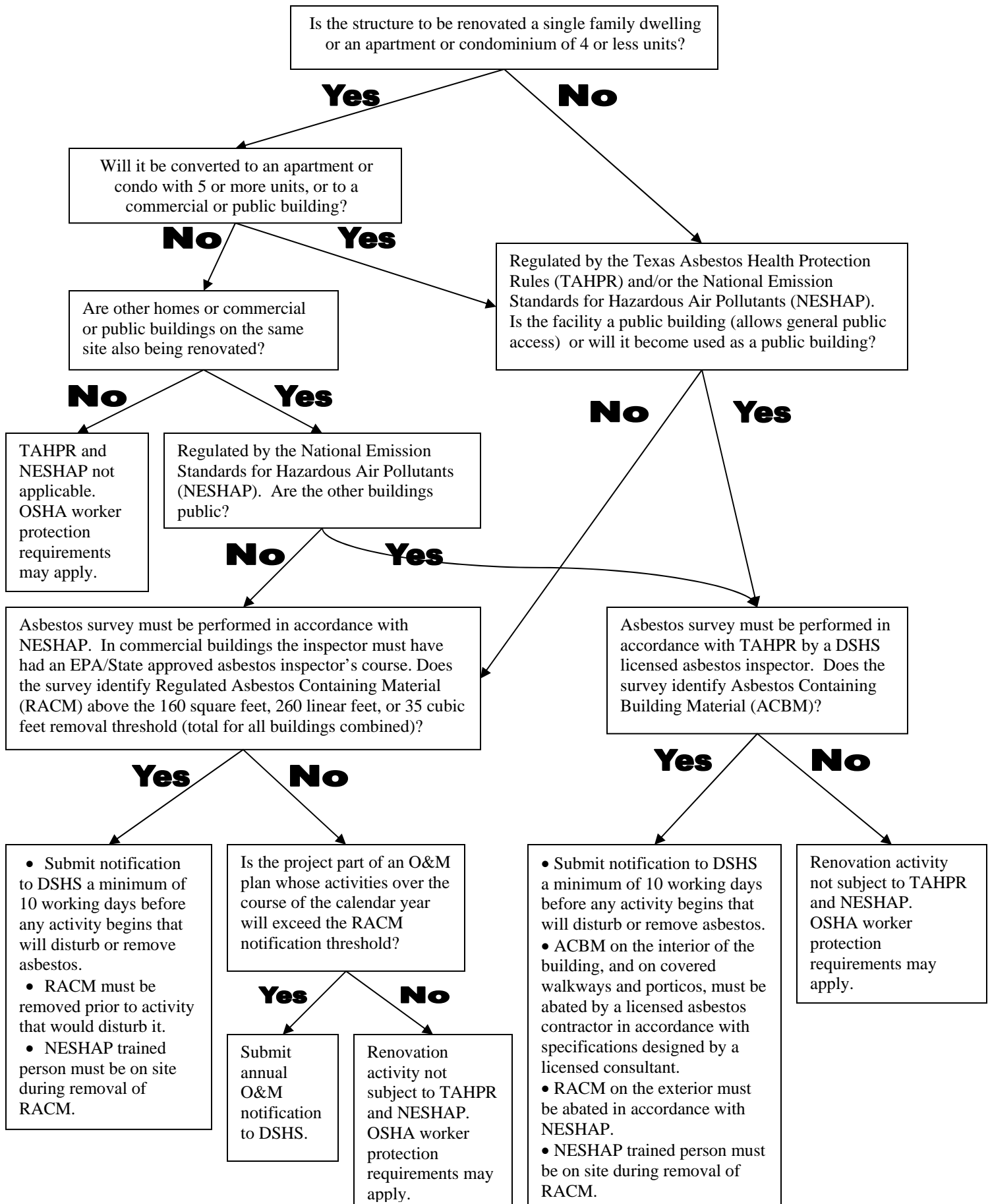
- (A) taping compounds (thermal);
- (B) HVAC duct insulation;
- (C) boiler insulation;
- (D) breaching insulation;
- (E) pipe insulation; and
- (F) thermal paper products.

(3) MISCELLANEOUS MATERIALS:

- (A) cement pipes;
- (B) cement wallboard/siding;
- (C) asphalt/vinyl floor tile;
- (D) vinyl sheet flooring/vinyl wall coverings;
- (E) floor backing;
- (F) construction mastic;
- (G) ceiling tiles/lay-in ceiling panels;
- (H) packing materials;
- (I) high temperature gaskets;
- (J) laboratory hoods/table tops;
- (K) fire blankets/curtains;
- (L) elevator equipment panels;
- (M) elevator brake shoes;
- (N) ductwork flexible fabric connections;
- (O) cooling towers;
- (P) heating and electrical ducts;
- (Q) electrical panel partitions;
- (R) electrical cloth/electrical wiring insulation;
- (S) chalkboards;
- (T) roofing shingles/tiles;
- (U) roofing felt;
- (V) base flashing;
- (W) fire doors;
- (X) caulking/putties;
- (Y) adhesives/mastics; and
- (Z) wallboard.

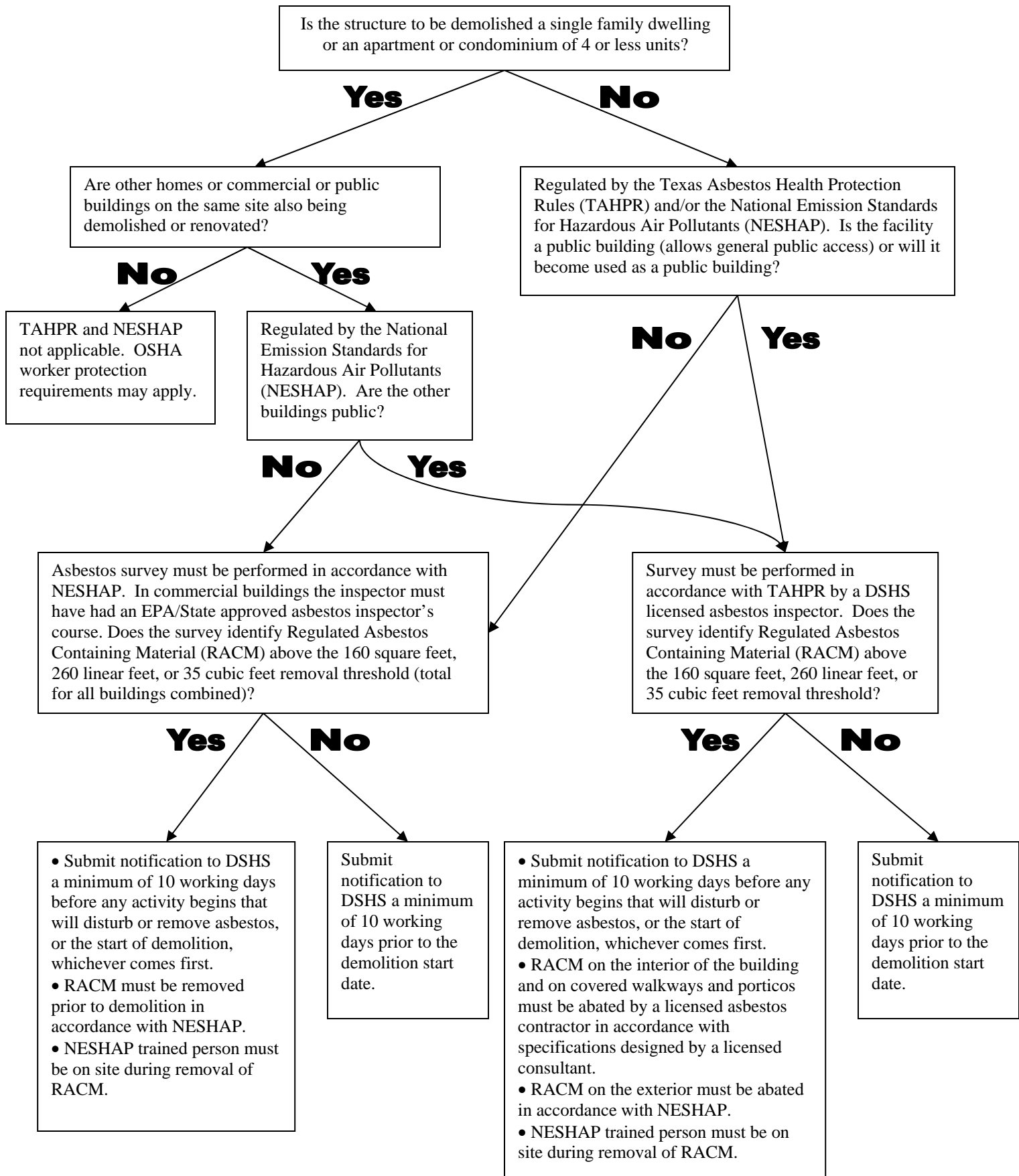
Texas Department of State Health Services

Renovation of Buildings



Texas Department of State Health Services

Demolition of Buildings



APPENDIX B

dse Asbestos Inspection Protocol

dse ASBESTOS INSPECTION PROTOCOL

The protocol used for this inspection was in general accordance with the Asbestos Hazard Emergency Response Act (AHERA) guidelines. The AHERA guidelines define criteria for inspections of asbestos containing building materials (ACBM's) in school buildings and have been adopted by TDSHS for use in public buildings.

The objective of the asbestos inspection was to identify and assess the condition of accessible suspect ACBM's at the building. Estimates of the quantity of any identified ACBM's were also made. Prior to the inspection, all available asbestos inspection and abatement reports for the facility were reviewed and summarized.

The reasonably accessible areas of the building interior and exterior were visually inspected to identify locations of suspect ACBM's and to define areas of homogeneous materials. Homogeneous materials are defined as being uniform in color and texture. Suspect ACBM's were physically handled to determine friability. Suspect ACBM's were classified as "friable" or "non-friable" according to AHERA guidelines. A "friable" material is any material that when dry, can easily be pulverized, crushed or reduced to powder by hand pressure. A "non-friable" material is any material that when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure. Non-friable materials may become friable if they are damaged, as they age, or during demolition or renovation activities. An evaluation of the condition and an estimate of the quantity of the suspect ACBM's were also made.

Prior to sampling, the suspect ACBM's were sprayed with a surfactant to reduce fiber release. The suspect ACBM's was then touched by the inspector to determine friability. Bulk samples were collected by the inspector, using a decontaminated knife, chisel, hammer or pliers and placed in sealed bags with an assigned field number. Bulk samples were not collected in a random manner in order to reduce damage to the building. Samples were typically collected in inconspicuous locations or adjacent to previously damaged areas. The condition of the suspect ACBM's was also assessed. Photographs of all sample locations were taken and the location of each sample was recorded on a building drawing.

The suspect ACBM's were grouped into specific homogeneous areas using one of the following classifications: surfacing, thermal system insulation (TSI) or miscellaneous. A surfacing material is a friable material sprayed-on, troweled-on or otherwise applied to surfaces (i.e. ceiling textures, fireproofing). TSI consists of materials applied to pipes, fittings, boilers, tanks, ducts or other building components to prevent heat loss or gain. Miscellaneous materials consist of sheet vinyl flooring, vinyl floor tile, mastic, ceiling tiles, drywall, tape & bed, etc. An inspector may, at his or her discretion, assume that a material is an ACBM without collecting or analyzing a bulk sample. In order to define a material as a non-ACBM, a minimum number of samples must be collected and analyzed dependent upon the type and quantity of the homogeneous material. The following general protocol was used:

Surfacing Material At least three (3) bulk samples shall be collected from each homogeneous area of friable surfacing material that is 1,000 ft² or less. At least five (5) bulk samples shall be collected from each homogeneous area greater than 1,000 ft² but less than or equal to 5,000 ft².

At least seven (7) bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft².

Thermal System Insulation At least three (3) bulk samples shall be collected from each homogeneous area of thermal system insulation that is not assumed to be ACBM. At least one (1) bulk sample shall be collected from each homogeneous area of patched thermal system insulation if the patched section is less than six (6) linear or square feet. Bulk samples shall be collected from each insulated mechanical system where cement or plaster is used on fittings such as tees, elbows, or valves in a manner sufficient, in the inspector's opinion, to determine whether the material is ACBM or not ACBM. No samples shall be collected from any homogeneous area where the inspector determines that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACBM.

Miscellaneous Materials At least three (3) bulk samples shall be collected from each homogeneous area.

Regulatory agencies (EPA, OSHA and TDSHS) have defined an ACBM as a building material containing greater than one percent (1%) asbestos. Bulk samples must be analyzed by polarized light microscopy (PLM) to determine their asbestos content. Bulk samples collected during this inspection were analyzed by Cates Laboratories, a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory.

Once the laboratory analysis of one bulk sample from a homogeneous area detects an asbestos content greater than 1%, the entire homogeneous area is classified as an ACBM. The remaining bulk samples from that homogeneous area do not need to be analyzed. The laboratory will not analyze the remaining bulk samples if it has been given a "positive stop" directive.

Friable samples that are determined to have an asbestos content of less than ten percent (10%) through PLM visual estimation (including those with an asbestos content of less than one percent), may either be assumed as ACBM or verified for asbestos content by point count analysis. A point count analysis is a statistical method for quantifying the percentage of asbestos in a material by PLM. The EPA recommends, but does not require, that flooring materials with no detectable asbestos through PLM analysis be verified through transmission electron microscopy (TEM) analysis.

APPENDIX C

Asbestos Bulk Sample Log

Site / Address:

Bldg 540, Fort Wolters

PLM-3772
(Set 6471)

Project No.: 1037503

Date:

9/21/10

Sample #	Material Description	Location	Comments / Observations / Photo No.	Friability	Type	HA #
A01	White window glazing (exterior)	S side, middle window, bottom	Damaged	NF	M	A
B01	Gray " " (interior)	Midwall, mid. window	"	NF NF	M	B
B02	" " " "	" " , W " Sect 1	"	"	"	"
B03	" " " "	" " , " " " 2	"	"	"	"
C01	Gray transite	" " , W end @ door	"	"	"	C
C02	" "	" " , debris area, Sect 1	"	"	"	"
C03	" "	" " , " " , " 2	"	"	"	"
D01	Black tar paper	" " , W end	"	"	"	D
D02	" " "	" " @ W window	"	"	"	"
D03	" " "	" " @ W door	"	"	"	"
E01	DW / PT	NE office above S door	"	NF	M/S	E
E02	" "	NW RR @ middle	"	"	"	"
E03	" "	Parts room @ middle	"	"	"	"
E04	" "	Parts room @ S side	"	"	"	"
E05	" "	NE office @ exterior door	"	"	"	"

Notes -

Material Key -

F - Friable
NF - Non-Friable

WS - Wall System

CS - Ceiling System

DW - Drywall

JC - Joint Compound

DT - Drywall Tape

V - Vinyl

Ce. - Ceramic

WT - Wall Tile

FT - Floor Tile

M - Mastic

WP - Wall Plaster

CP - Ceiling Plaster

ACT - Acoustic Ceiling Tile

CB - Covebase

Crt. - Carpet

Type Key -

M - Miscellaneous

TSI - Thermal Systems Insulation

S - Surfacing material

HA - Homogeneous Area

Other -

Sampler (s)

D. Horn D. Horn

TDSHS License No. (s)

10-5591

Date: 9/21/10

~~Name follow~~

30 titres for HA-I

Sampler (s) D. Horn L. Horn TDSHS License No. (s) 10-5591

PLM-3712
(Set 6478)
Project No.: 1037503

Site / Address: Bldg 541, Ft Wolters

Date: 9/21/10

Sample #	Material Description	Location	Comments / Observations / Photo No.	Friability	Type	HA #
A01	Light gray window glaze (WG)	S side, W window	Damaged	F	M	A
A02	" " " "	" " , Middle window	"	F	"	"
A03	" " " "	E side, 2 ^d window from S side	"	F	"	"
B01	White/orange ceiling tile	NW office @ door	"	"	"	B
B02	" " " "	" " on S side	"	"	"	"
B03	" " " "	" " @ SEC	"	"	"	"
C01	White DW /PT	NW office, SWC	Damaged, no JC	NF	M/S	C
C02	" " "	N parts room, mid-ceiling	" " "	"	"	"
C03	" " "	" " " , SW area	" " "	"	"	"
C04	" " "	" " " , S side	" " "	"	"	"
C05	" " "	NW office, SWC @ window	" " "	"	"	"
D01	Tan DW	NE Restroom, Sect 1	" " "	"	M	D
D02	" "	" " " 2	" " "	"	"	"
D03	" "	" " " 3	" " "	"	"	"
E01	White transite	E side on mid wall, E side center	"	"	"	E

Notes -

Material Key - F - Friable NF - Non-Friable WS - Wall System CS - Ceiling System DW - Drywall JC - Joint Compound DT - Drywall Tape V - Vinyl Ce. - Ceramic WT - Wall Tile FT - Floor Tile M - Mastic WP - Wall Plaster CP - Ceiling Plaster ACT - Acoustic Ceiling Tile CB - Covebase Crt. - Carpet	Type Key - M - Miscellaneous TSI - Thermal Systems Insulation S - Surfacing material HA - Homogeneous Area	Other - WG - Window glazing
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------	---------------------------------------

Sampler (s) D. Horn *D. Horn*

TDSHS License No. (s) 10-5591

Site / Address: Bldg 541
 PLIN-3772
 Ser 0478
 Project No.: 1037503
Date: 9/21/10

Sample #	Material Description	Location	Comments / Observations / Photo No.	Friability	Type	HA #
E02	HT White transite	NW exterior @ office door	Damaged	NF	M	E
E03	" "	NWC of bldg	"	NF	M	E
F01	Black tar paper	" " "	"	NF	M	F
G01	White window glazing	NW window, bottom	"	NF	M	G
H01	White window caulking	NW window, S side	"	NF	M	H
G02	White window glazing	NW window, middle	"	NF	M	G
I01	Gray soffit transite	NW area over door	"	NF	M	I
J01	White TSI	RR @ water heater	"	F	T	J
K01	Ceiling system (DW, PT, SC)	N center rm, SWC	"	NF	M/S	K
None follow E11						

Notes -

Material Key -	WS - Wall System	V - Vinyl	WP - Wall Plaster	Type Key -	Other -
F - Friable	CS - Ceiling System	Ce. - Ceramic	CP - Ceiling Plaster	M - Miscellaneous	
NF - Non-Friable	DW - Drywall	WT - Wall Tile	ACT - Acoustic Ceiling Tile	TSI - Thermal Systems Insulation	
	JC - Joint Compound	FT - Floor Tile	CB - Covebase	S - Surfacing material	
	DT - Drywall Tape	M - Mastic	Crt. - Carpet	HA - Homogeneous Area	

 Sampler (s) D. Horn D. Horn TDSHS License No. (s) 10-5591

Site / Address: Bldg 578, Fort Wolters

PLM-3772
(Set 6426)
Project No.: 1037503

Date: 9/21/10

Sample #	Material Description	Location	Comments / Observations / Photo No.	Friability	Type	HA #
A01	DW/PT/JC	E room, SWC @ window	Damaged	F	M/S	A
A02	" " "	" " " " cross beam	"	F	"	"
A03	" " "	W " @ door	"	F	"	"
B01	White window glazing	W room, W window, bottom	"	F	M	B
B02	" " "	" " " " , middle	"	F	M	"
B03	" " "	" " S " , bottom	"	F	M	"
C01	White " caulking	W window exterior	"	NF	M	C
None follow DH						

Notes -

Material Key -
F - Friable
NF - Non-Friable

WS - Wall System
CS - Ceiling System
DW - Drywall
JC - Joint Compound
DT - Drywall Tape

V - Vinyl
Ce. - Ceramic
WT - Wall Tile
FT - Floor Tile
M - Mastic

WP - Wall Plaster
CP - Ceiling Plaster
ACT - Acoustic Ceiling Tile
CB - Covebase
Crt. - Carpet

Type Key -
M - Miscellaneous
TSI - Thermal Systems Insulation
S - Surfacing material
HA - Homogeneous Area

Other -

Sampler (s) D. Horn DH TDSHS License No. (s) 10-5591

Date: 9/22/10

Notes -					
Material Key -	WS - Wall System	V - Vinyl	WP - Wall Plaster	Type Key -	Other -
F - Friable	CS - Ceiling System	Ce. - Ceramic	CP - Ceiling Plaster	M - Miscellaneous	
NF - Non-Friable	DW - Drywall	WT - Wall Tile	ACT - Acoustic Ceiling Tile	TSI - Thermal Systems Insulation	
	JC - Joint Compound	FT - Floor Tile	CB - Covebase	S - Surfacing material	
	DT - Drywall Tape	M - Mastic	Crt. - Carpet	HA - Homogeneous Area	

p. 1 of 3

PUM-3772
(Set 6474)

Site / Address: Bldg 551, Ft. Walters

Project No.: 1037503

Date: 9/22/10

Sample #	Material Description	Location	Comments / Observations / Photo No.	Friability	Type	HA #
G01	TSI debris	Rm 5, W side in wall void	Significantly damaged	F	T	G
H01	TSI w/ wrap	" " " " " debris area	" "	F	T	H
I01	Roof debris (type 1)	" " center	" "	NF	M	I
J01	Exterior door caulk	S entry to Rm 5	" "	NF	M	J
K01	Roof debris (type 2)	S side of Rm 5	" "	NF	M	K
L01	Gray TSI	Boiler flue	Damaged	F	T	L
M01	Light gray transite panel	Boiler room S wall	"	NF	M	M
N01	Exterior transite cover	S side of bldg @ boiler entry	"	NF	M	N
O01	Boiler insulation	E side of boiler	"	F	T	O
P01	Vessel "	Boiler rm - elevated vessel	"	F	T	P
Q01	HVAC duct mastic	" " - center	"	NF	T	Q
R01	Transite / tar paper	" " @ exterior door	"	NF	M	R
S01	Exterior air handler insulation	Ext air handler S of bldg	"	NF	T	S
T01	Tar wrap	Boiler rm 1" line @ small vessel	"	NF	T	T
U01	Tile / mastic	SE entry to Rm 5	"	NF	M	U

Notes -

Material Key - F - Friable NF - Non-Friable WS - Wall System CS - Ceiling System DW - Drywall JC - Joint Compound DT - Drywall Tape V - Vinyl Ce. - Ceramic WT - Wall Tile FT - Floor Tile M - Mastic WP - Wall Plaster CP - Ceiling Plaster ACT - Acoustic Ceiling Tile CB - Covebase Crt. - Carpet	Type Key - M - Miscellaneous TSI - Thermal Systems Insulation S - Surfacing material HA - Homogeneous Area	Other -
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------	----------------

Sampler (s) D. Horn D. Horn

TDSHS License No. (s) 10-5591

Date: 9/22/10

[illegible]

Notes -

Material Key –
F – Friable
NF – Non-Friable

WS – Wall System
CS – Ceiling System
DW – Drywall
JC – Joint Compound
DT – Drywall Tape

V – Vinyl
Ce. – Ceramic
WT – Wall Tile
FT – Floor Tile
M – Mastic

WP – Wall Plaster
CP – Ceiling Plaster
ACT – Acoustic Ceiling Tile
CB – Covebase
Crt. – Carpet

Type Key –
M – Miscellaneous
TSI – Thermal Systems Insulation
S – Surfacing material
HA – Homogeneous Area

Other -	
---------	--

Sampler (s)

Sh - Shell	W - Waste
D. Horn	D. Horn

TDSHS License No. (s)

10-5591

Date: 9/22/10

[illegible]

Notes -

Material Key – F – Friable NF – Non-Friable	WS – Wall System CS – Ceiling System DW – Drywall JC – Joint Compound DT – Drvwall Tape	V – Vinyl Ce. – Ceramic WT – Wall Tile FT – Floor Tile M – Mastic	WP – Wall Plaster CP – Ceiling Plaster ACT – Acoustic Ceiling Tile CB – Covebase Crt. – Carpet	Type Key – M – Miscellaneous TSI – Thermal Systems Insulation S – Surfacing material HA – Homogeneous Area	Other –
----------------------------------------------------------	-----------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------	----------------

Sampler (s) D. Horn J. Horn TDSHS License No. (s) 10-5591

P1m-3772
(Set 6481)

Site / Address: Bldg 571, Ft. Walters

Project No.: 1037503

Date: 9/22/10

Sample #	Material Description	Location	Comments / Observations / Photo No.	Friability	Type	HA #
A01	Wall plaster	Rm 1, N side @ door	Damaged	F	S	A
A02	" "	" " NWC	"	"	"	"
A03	" "	" 3, N side @ door	"	"	"	"
B01	Roof debris	" 2, " "	Significantly damaged	NF	M	B
C01	CMU surfacing	N exterior @ entry to Rm 1	" "	NF	S	C
C02	Exterior CMU, mortar, & surfacing	NEC of bldg.	" "	NF	M/S	C
D01	ACT debris	Rm 1, W side	" "	F	M	D
E01	Plaster	N interior wall	" "	"	S	E
F01	Window glazing	N side @ NEC window - Rm 3	" "	"	M	F
G01	Green 9"x9" VFT/M	NE portion of Rm 4	" "	NF	M	G
G02	" " " "	Rm 3, center	Den " "	"	"	"
G03	" " " "	" 1, "	" "	"	"	"
None follow						
OH						

Notes -

Material Key -

WS - Wall System
CS - Ceiling System
DW - Drywall
JC - Joint Compound
DT - Drywall Tape

V - Vinyl
Ce. - Ceramic
WT - Wall Tile
FT - Floor Tile
M - Mastic

WP - Wall Plaster
CP - Ceiling Plaster
ACT - Acoustic Ceiling Tile
CB - Covebase
Crt. - Carpet

Type Key -

M - Miscellaneous
TSI - Thermal Systems Insulation
S - Surfacing material
HA - Homogeneous Area

Other -

Sampler (s) D. Horn D. Horn

TDSHS License No. (s) 10-5591

PLM-3772
(Set 6480)

Site / Address: Bldg 575, Ft. Wolters

Project No.: 1037503

Date: 9/22/10

Sample #	Material Description	Location	Comments / Observations / Photo No.	Friability	Type	HA #
A01	Green 9" x 9" UFT/M	N entry hall, center	Damaged	NF	M	A
A02	" " " "	SE bldg entry	"	"	"	"
A03	" " " "	SW " "	"	"	"	"
B01	DW / PT / JC	Rm 1, W wall	"	"	M/S	B
B02	" " "	N entry hall, S side	"	"	"	"
B03	" " "	Rm 6, NEC	"	"	"	"
C01	2' x 4' ACT (pin/texture)	Rm 8, E side Rm 8, E side	"	F	M	C
C02	" " " "	Rm 8, SEC	"	"	"	"
C03	" " " "	Rm 8, W side	"	"	"	"
D01	" " (fissure/pin)	N entry hall, SEC	"	"	"	D
D02	" " " "	Rm 10, SEC	"	"	"	"
D03	" " " "	Rm 6, SWC	"	"	"	"
E01	CBM	N entry hall, SWC	"	NF	M	E
E02	"	Rm 1, N side	"	"	"	"
E03	"	Rm 6, E side	"	"	"	"

Notes -

Material Key -

F - Friable
NF - Non-Friable

WS - Wall System

CS - Ceiling System

DW - Drywall

JC - Joint Compound

DT - Drywall Tape

V - Vinyl

Ce. - Ceramic

WT - Wall Tile

FT - Floor Tile

M - Mastic

WP - Wall Plaster

CP - Ceiling Plaster

ACT - Acoustic Ceiling Tile

CB - Covebase

Crt. - Carpet

Type Key -

M - Miscellaneous

TSI - Thermal Systems Insulation

S - Surfacing material

HA - Homogeneous Area

Other -

Sampler (s) D. Horn D. Horn

TDSHS License No. (s) 10-5591

Date: 9/22/10

[illegible]

Notes -

Material Key –

F – Friable
NF – Non-Friable

WS – Wall System

CS – Ceiling System

DW – Drywall

JC – Joint Compound

DT – Drywall Tape

V – Vinyl

Ce. — Ceramic

WT – Wall Tile

FT – Floor Tile

M – Mastic

WP – Wall Plaster

CP – Ceiling Plaster

ACT – Acoustic Ceiling Tile

CB – Covebase

Crt. – Carpet

Type Key –

M – Miscellaneous

TSI – Thermal Systems Insulation

S – Surfacing material

HA – Homogeneous Area

Other -	
---------	--

Sampler (s)

Symbol	Material
D.Horn	D. Horn

TDSHS License No. (s)

10-5591

PLN-3772
(Set 6479)

Site / Address: Bldg 576, Ft. Walters

Project No.: 1037503

Date: 9/22/10

Sample #	Material Description	Location	Comments / Observations / Photo No.	Friability	Type	HA #
A01	Green 9"x9" VFT/M	N entry hall, NWC	Damaged	NF	M	A
A02	" " " "	Rm 1, S side @ door	"	"	"	"
A03	" " " "	Rm 10, NWC	"	"	"	"
B01	DW/PT/JC	N entry hall, SEC	"	"	M/S	B
B02	" " "	Rm 1, N side	"	"	"	"
B03	" " "	Rm 10, W side	"	"	"	"
C01	2'x4' ACT	Rm 8, NEC	"	F	M	C
C02	" "	Rm 9, SEC	"	F	"	"
C03	" "	Rm 1, S side ^E of entry	"	F	"	"
D01	Brown CBM /DW	N entry, S wall @ center	"	NF	"	D
D02	" "	Rm 1, N side	"	"	"	"
D03	" "	Rm 10, W side	"	"	"	"
E01	Duct insulation	Boiler rm, SEC	"	"	T	E
F01	Insulation wrap (elbow)	" " , E side	"	"	"	F
G01	TSI (run)	" " " "	"	"	"	G

Notes -

Material Key -

WS - Wall System
CS - Ceiling System
DW - Drywall
JC - Joint Compound
DT - Drywall Tape

V - Vinyl
Ce. - Ceramic
WT - Wall Tile
FT - Floor Tile
M - Mastic

WP - Wall Plaster
CP - Ceiling Plaster
ACT - Acoustic Ceiling Tile
CB - Covebase
Crt. - Carpet

Type Key -

M - Miscellaneous
TSI - Thermal Systems Insulation
S - Surfacing material
HA - Homogeneous Area

Other -

Sampler (s) D. Horn P. Horn

TDSHS License No. (s) 10-5591

PLM-3772
(5656479)

Site / Address: BLDG, Ft. Wolters

Project No.: 1037503

Date: 9/22/10

Sample #	Material Description	Location	Comments / Observations / Photo No.	Friability	Type	HA #
H01	Vibration gasket	Boiler rm, SEC	Damaged	NF	T	H
I01	Wall mastic	E RR @ window	"	NF	M	I
I02	" "	" " SEC	"	"	"	"
I03	" "	W RR S wall	"	"	"	"
J01	White HVAC mastic	Rm 1, center	"	"	T	J
K01	HVAC ducting wrap/M	SE HVAC run	"	"	T	K
L01	Tan ceiling tile	Rm 9 near entry to Rm 1	"	F	M	L
None follow DH						

Notes -

Material Key -
F - Friable
NF - Non-Friable

WS - Wall System
CS - Ceiling System
DW - Drywall
JC - Joint Compound
DT - Drywall Tape

V - Vinyl
Ce. - Ceramic
WT - Wall Tile
FT - Floor Tile
M - Mastic

WP - Wall Plaster
CP - Ceiling Plaster
ACT - Acoustic Ceiling Tile
CB - Covebase
Crt. - Carpet

Type Key -
M - Miscellaneous
TSI - Thermal Systems Insulation
S - Surfacing material
HA - Homogeneous Area

Other -

RR - Restroom

Sampler (s) DHorn D. Horn

TDSHS License No. (s) 10-5591

APPENDIX D

Asbestos Inspection Building Floorplans

E02-03: 15% Chrys.
 F01: ND
 I01: 15% Chrys.
 G01-02: 2% Chrys.
 H01: 5% Chrys.
 C01, C05: 3% Chrys.
 B02: ND
 K01: 3% Chrys.
 PR
 C02: ND
 B
 J01: 15% Amosite / 5% Chrys.
 D01-03: ND
 C04: 3% Chrys.
 C03: 3% Chrys.
 B03: ND
 B01: ND

Loft above

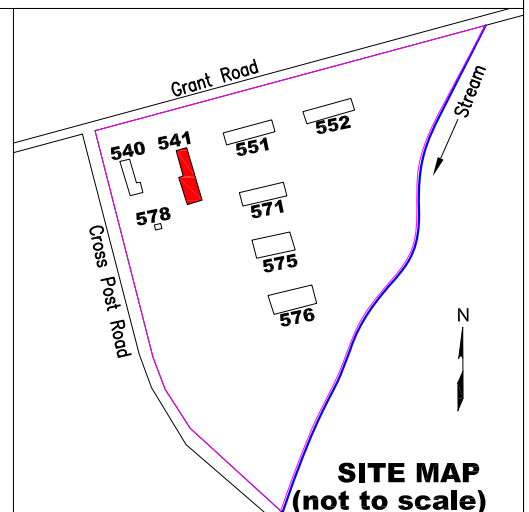
E01: 15% Chrys.

A03: 2% Chrys.

A01: ND A02: ND

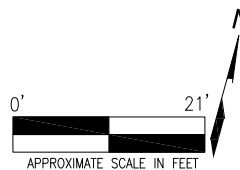
LEGEND

- Joint Compound (ceilings and walls)
- Window Glazing/Caulking
- Transite Siding
- Transite Soffit
- TSI
- A## Light Gray Window Glazing (2% Chrys.)
- B## White/Orange Ceiling Tile
- C## Drywall/Paint Texture (3% Chrys.)
- D## Tan Drywall
- E## White Transite (15% Chrys.)
- F## Black Tar Paper
- G## White Window Glazing (2% Chrys.)
- H## White Window Glazing (5% Chrys.)
- I## Gray Soffit Transite (15% Chrys.)
- J## White TSI (15% Amosite / 5% Chrys.)
- K## Drywall/Paint Texture/Joint Compound (3% Chrys.)
- ND** None detected
- #% Chrys.** >1% Asbestos content detected



Dougherty Sprague Environmental, Inc.
 3902 Industrial Street, Suite A
 Rowlett, Texas 75088

MANAGER	APP. DATE	FILE NAME
DAF		CAD\Drawing.dwg-ASBFIG2
APPROX. SCALE	DRAWN	DATE
1"=21'	CS	10/4/10
		PROJECT
		1037503



LEGEND

- O** Office
- B** Bathroom
- PR** Parts room
- S** Storage
- C** Classroom
- 1** Room number
- Window
- Service bay doors

FIGURE 2 Asbestos Inspection Building 541

Fort Wolters - TDCJ Property
 Cross Post Road/Grant Road
 Mineral Wells, TX 76067

**A03: 5% Chrys. (Paint Texture)
5% Chrys. (Joint Compound)**

B01-02: ND

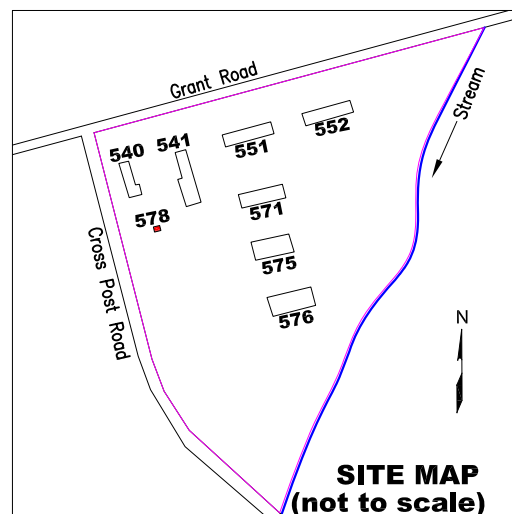
C01: ND

B03: ND

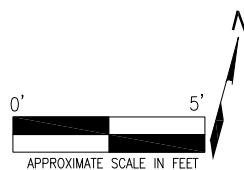
**A01-02: 5% Chrys. (Paint Texture)
5% Chrys. (Joint Compound)**

LEGEND

- Joint Compound (walls)
- Joint Compound (ceilings)
- A##** Drywall/Paint Texture (5% Chrys.)/
Joint Compound (5% Chrys.)
- B##** White Window Glazing
- C##** White Window Caulking



Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088



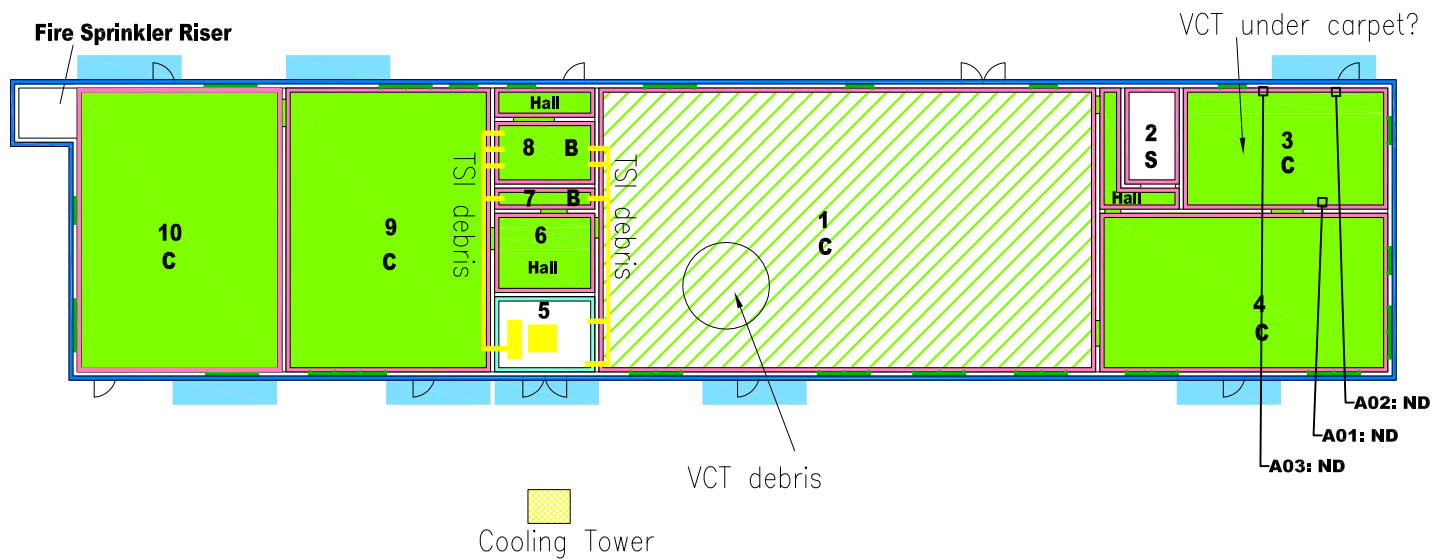
LEGEND

- O** Office
- B** Bathroom
- PR** Parts room
- S** Storage
- C** Classroom
- 1** Room number
- Window
- Service bay doors

**FIGURE 3
Asbestos Inspection
Building 578**

Fort Wolters – TDCJ Property
Cross Post Road/Grant Road
Mineral Wells, TX 76067

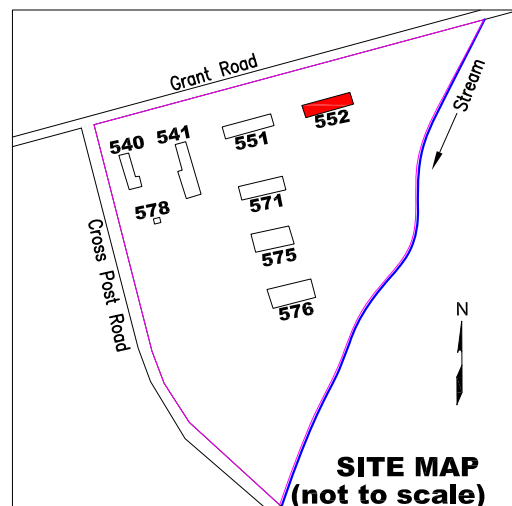
MANAGER	APP. DATE	FILE NAME
DAF		CAD\Drawing.dwg-ASBFIG3
APPROX. SCALE	DRAWN	DATE
1"=5'	CS	10/4/10
		PROJECT
		1037503



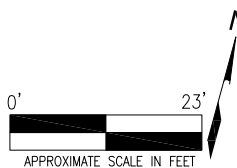
LEGEND

- 9x9 Green VCT/Black Mastic
- Transite Shingles
- Transite Panels
- Transite Porch Roof
- TSI
- Joint Compound (walls only)
- Window Glazing
- VCT partially removed or never installed

—A## White 1'x2' Acoustical Ceiling Tile/
Brown Mastic



Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

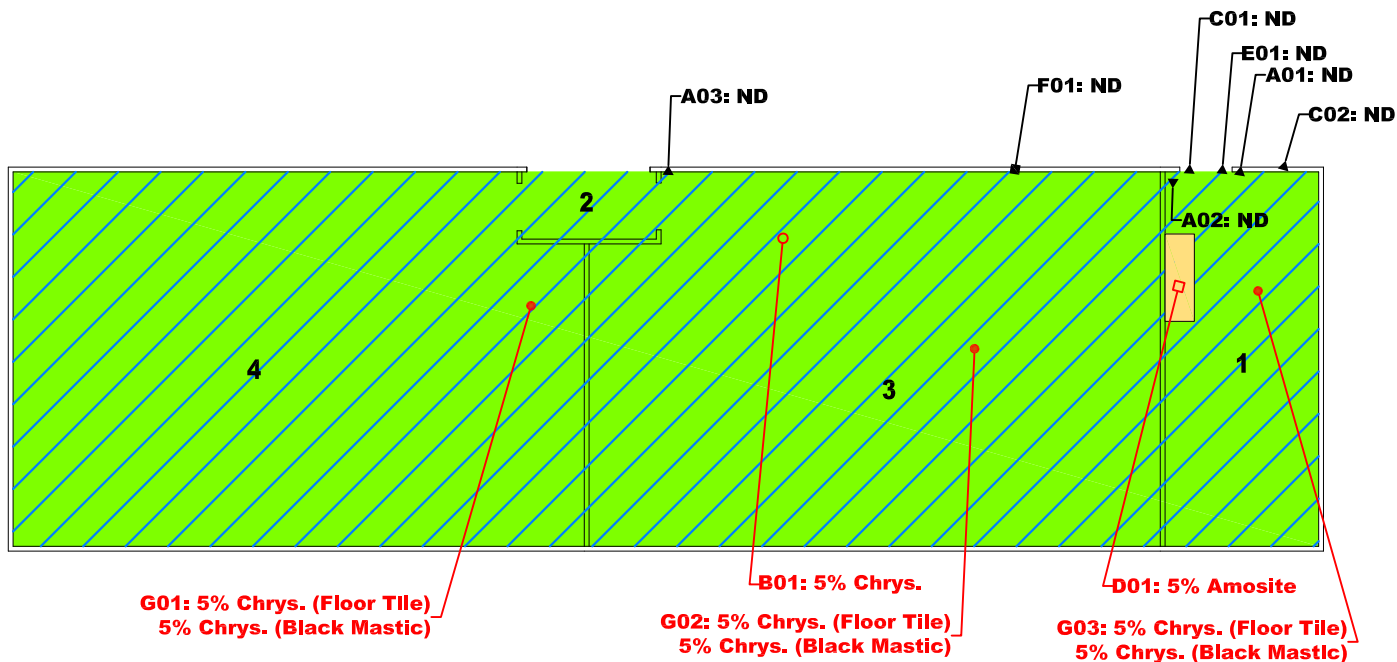


LEGEND


- O** Office
- B** Bathroom
- PR** Parts room
- S** Storage
- C** Classroom
- 1** Room number
- Window
- Service bay doors

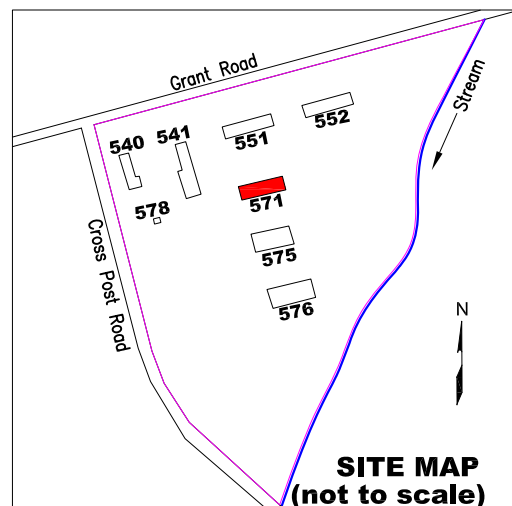
FIGURE 5 Asbestos Inspection Building 552

Fort Wolters – TDCJ Property
Cross Post Road/Grant Road
Mineral Wells, TX 76067



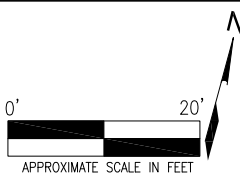
LEGEND

-  Acoustical Ceiling Panel
-  9x9 VCT Green/Black Mastic
-  Roofing Mastic Debris
-  **A##** Wall Plaster
-  **B##** Roof Debris (5% Chrys.)
-  **C##** CMU
-  **D##** Acoustical Ceiling Tile Debris (5% Amosite)
-  **E##** Plaster
-  **F##** Window Glazing
-  **G##** Green 9"x9" Vinyl Floor Tile (5% Chrys.)/
Black Mastic (5% Chrys.)



Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

MANAGER	APP. DATE	FILE NAME
DAF		CAD\Drawing.dwg-ASBFIG6
APPROX. SCALE	DRAWN	DATE
1"=20'	CS	10/4/10
		PROJECT
		1037503



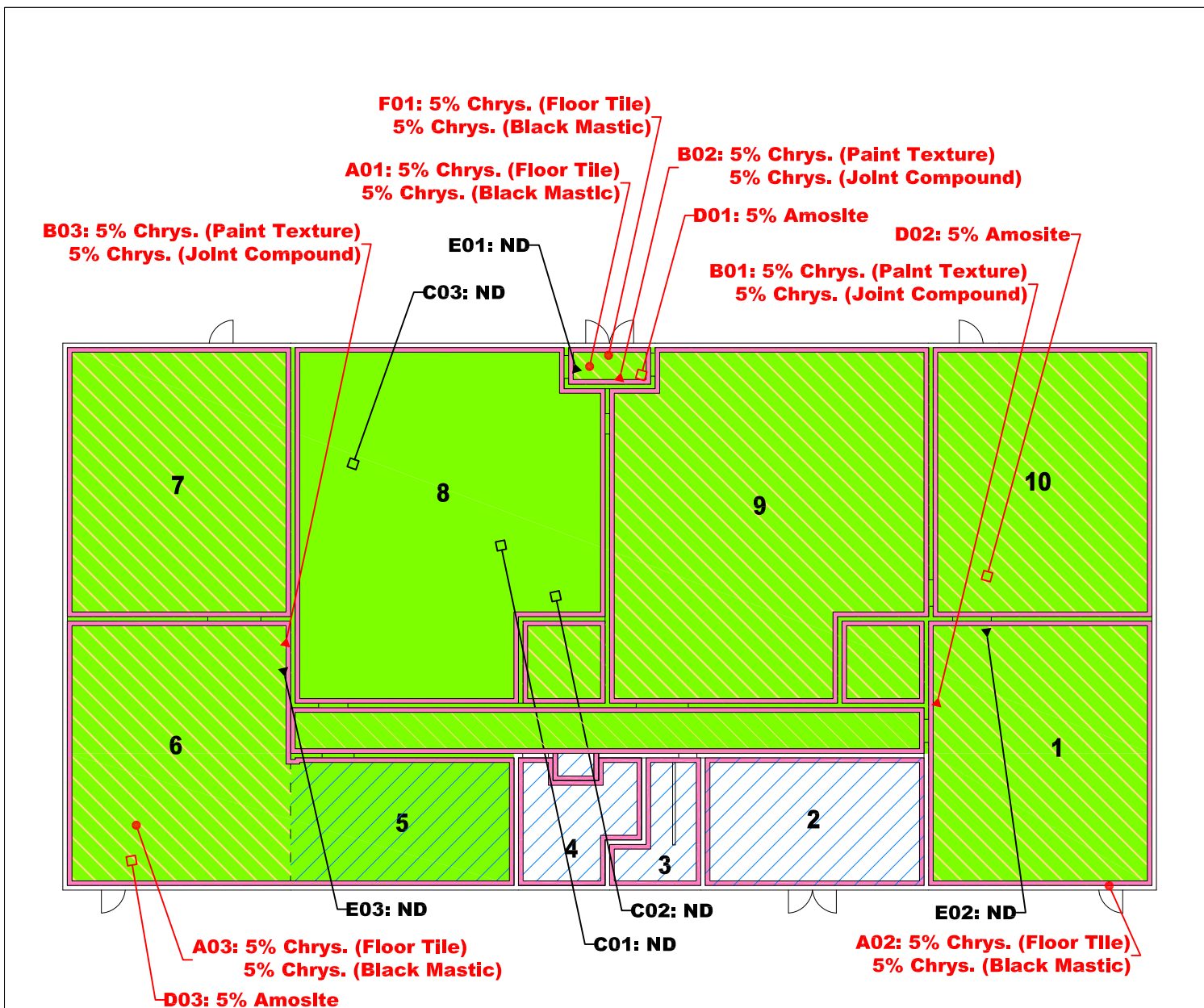
LEGEND

- O** Office
- B** Bathroom
- PR** Parts room
- S** Storage
- C** Classroom
- 1** Room number

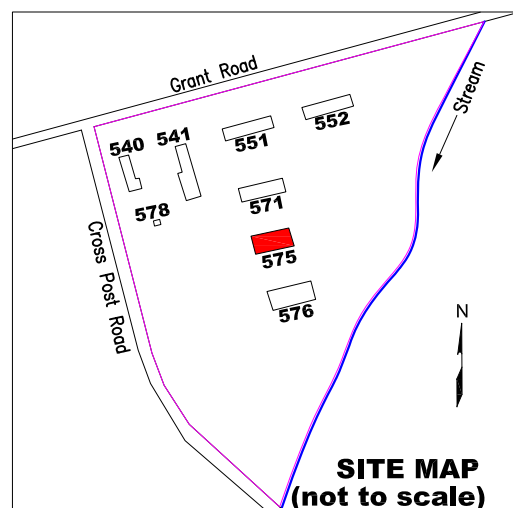
-  Window
-  Service bay doors

FIGURE 6 Asbestos Inspection Building 571

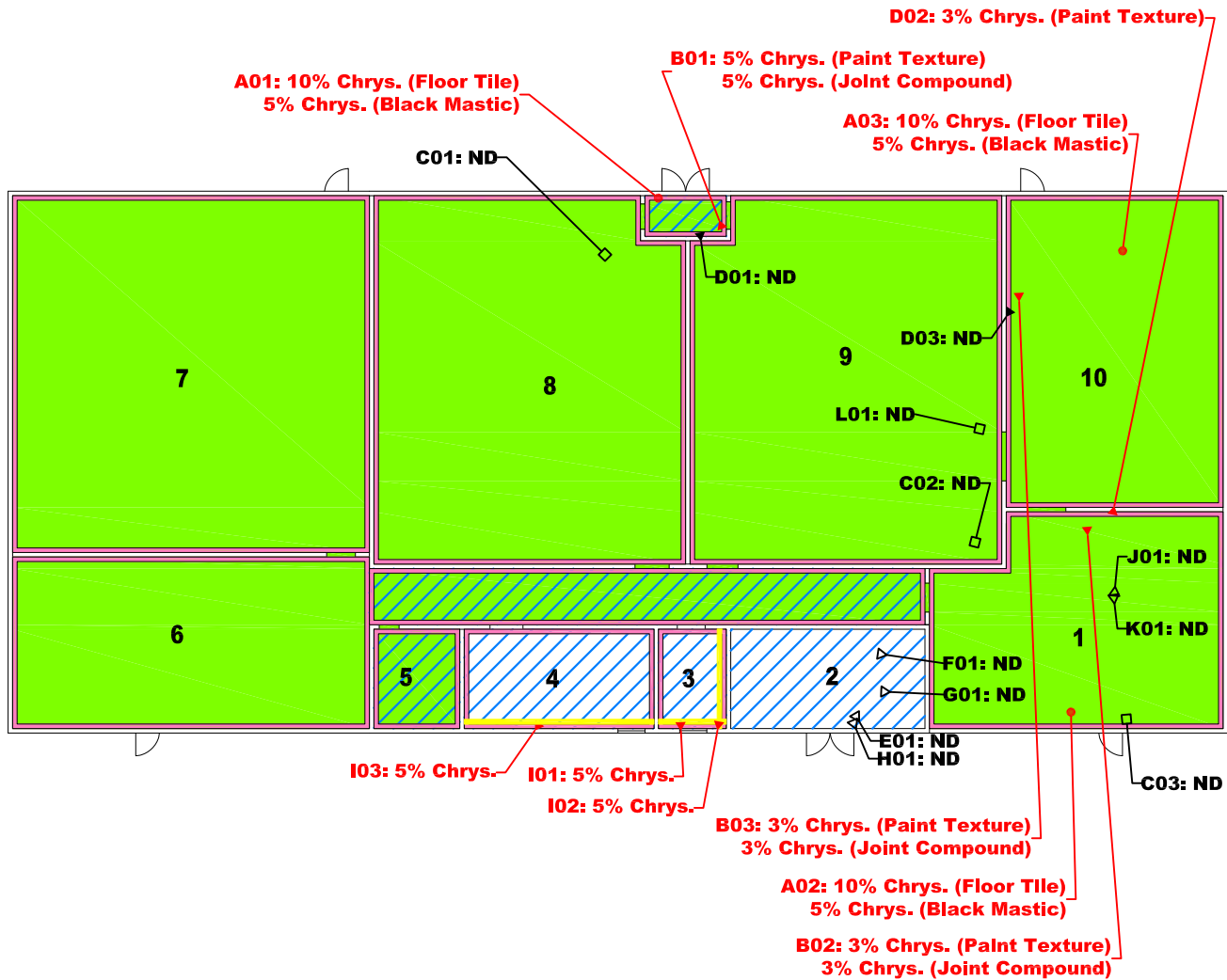
Fort Wolters – TDCJ Property
Cross Post Road/Grant Road
Mineral Wells, TX 76067



LEGEND			
	Acoustical Ceiling Tile		
	9x9 VCT Green/Black Mastic		
	Joint Compound (walls)		
	Joint Compound (ceilings)		
	A## Green 9"x9" Vinyl Floor Tile (5% Chrys.)/ Black Mastic (5% Chrys.)		
	B## Drywall/Paint Texture (5% Chrys.)/ Joint Compound (5% Chrys.)		
	C## 2'x4' Acoustic Ceiling Tile (pin/texture)		
	D## 2'x4' Acoustic Ceiling Tile (fissure/pin) (5% Amosite)		
	E## Cove Base Mastic		
	F## Floor Tile (5% Chrys.)/Mastic Debris (5% Chrys.)		



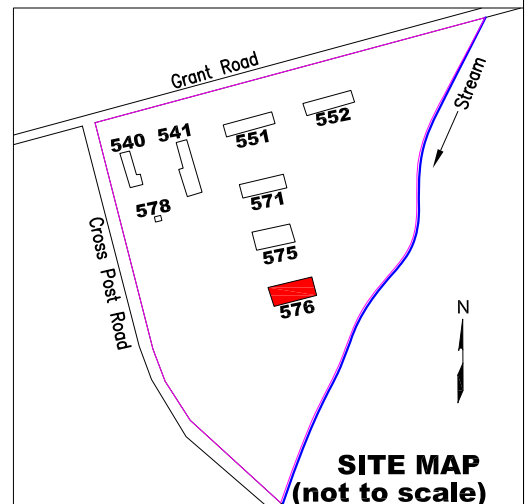
Dougherty Sprague Environmental, Inc. 3902 Industrial Street, Suite A Rowlett, Texas 75088						LEGEND O Office B Bathroom PR Parts room S Storage C Classroom 1 Room number Window Service bay doors																	
<table border="1"> <tr> <td>MANAGER</td> <td>APP. DATE</td> <td colspan="2">FILE NAME</td> </tr> <tr> <td>DAF</td> <td></td> <td colspan="2">CAD\Drawing.dwg-ASBFIG7</td> </tr> <tr> <td>APPROX. SCALE</td> <td>DRAWN</td> <td>DATE</td> <td>PROJECT</td> </tr> <tr> <td>1"=17'</td> <td>CS</td> <td>10/4/10</td> <td>1037503</td> </tr> </table>				MANAGER	APP. DATE	FILE NAME		DAF		CAD\Drawing.dwg-ASBFIG7		APPROX. SCALE	DRAWN	DATE	PROJECT	1"=17'	CS	10/4/10	1037503			FIGURE 7 Asbestos Inspection Building 575 Fort Wolters – TDCJ Property Cross Post Road/Grant Road Mineral Wells, TX 76067	
MANAGER	APP. DATE	FILE NAME																					
DAF		CAD\Drawing.dwg-ASBFIG7																					
APPROX. SCALE	DRAWN	DATE	PROJECT																				
1"=17'	CS	10/4/10	1037503																				



LEGEND

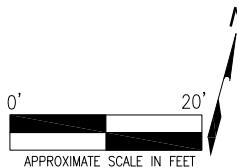
- 9x9 VCT Green/Black Mastic
- Joint Compound (walls)
- Joint Compound (ceilings)
- Wall Mastic

- A##** Green 9"x9" Floor Tile (10% Chrys.)/
Black Mastic (5% Chrys.)
- B##** Drywall/Paint Texture/Joint Compound
- C##** 2'x4' Acoustic Ceiling Tile
- D##** Brown Cove Base Mastic/Drywall
- E##** Duct Insulation
- F##** Insulation Wrap
- G##** TSI
- H##** Vibration Gasket
- I##** Wall Mastic (5% Chrys.)
- J##** White HVAC Mastic
- K##** HVAC Ducting Wrap/Mastic
- L##** Tan Ceiling Tile



Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

MANAGER	APP. DATE	FILE NAME
DAF		CAD\Drawing.dwg-ASBFIG8
APPROX. SCALE	DRAWN	DATE
1"=20'	CS	10/4/10
		PROJECT
		1037503



LEGEND

- O** Office
- B** Bathroom
- PR** Parts room
- S** Storage
- C** Classroom
- 1** Room number
- Window
- Service bay doors

FIGURE 8 Asbestos Inspection Building 576

Fort Wolters – TDCJ Property
Cross Post Road/Grant Road
Mineral Wells, TX 76067

APPENDIX E

Asbestos Bulk Sample Analyses Laboratory Reports and Chain of Custody

Cates Laboratories

September 29, 2010

Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

Attention: Paul Heidgerd, P.G.

Subject: **Fort Wolters, TX (USACE) Various Buildings – PLM Analysis**
DSE Project No. 1037503
CatesLab Project No. PLM-03772

Dear Mr. Heidgerd:

Enclosed you will find our invoice for the one hundred thirty-five (135) bulk samples delivered to us, labeled Bldg. 551 (A01 through V01); Bldg. 552 (A01 through A03); Bldg. 578 (A01 through C01); Bldg. 540 (A01 through J01); Bldg. 541 (A01 through K01); Bldg. 576 (A01 through L01); Bldg. 575 (A01 through F01) and Bldg. 571 (A01 through G03). The samples were analyzed by polarized light microscopy coupled with dispersion staining as outlined in the "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116). Detail and summary reports sent via e-mail.

Cates Laboratories, Inc. (CatesLab) has performed the analysis using accepted industry-standard practices. We can take no responsibility for locations sampled or sampling techniques.

CatesLab appreciates the opportunity to serve as your testing laboratory. If you have any questions or if we may be of further service to you, please call.

Sincerely,

CATES LABORATORIES, INC.



John R. Cates, P.G.
President
Laboratory Director

Enclosures

CatesLab Project No. PLM-3772
(Set 6474 - 6481)

CATES LABORATORIES			Asbestos Bulk Sample Chain of Custody					
Company: <u>Dougherty Sprague Environmental</u>			Results to: <u>Dave Horn / Paul Heidgerd</u> Verbal <input type="checkbox"/> Fax <input type="checkbox"/> Email <input checked="" type="checkbox"/> Positive Stop? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					
Project No. <u>1037503</u>			Project: <u>Fort Wolters, TX (USACE)</u>					
CatesLab No.	Field I.D. No.	Date of Sample	Turnaround (circle one)					Sample Description/Location
			ASAP RUSH	24 hr	STD	3-4 Day	5 Day	
<u>170921-170951</u>	<u>See attached</u>	<u>9/22/10</u>	<u>Bldg 551 - 31 samples, see attached</u>					<u>(Set 6474)</u>
<u>170952-170954</u>	<u>" "</u>	<u>9/22/10</u>	<u>" 552 - 3 "</u>					<u>(Set 6475)</u>
<u>170955-170961</u>	<u>" "</u>	<u>9/21/10</u>	<u>" 578 - 7 "</u>					<u>(Set 6476)</u>
<u>170962-170981</u>	<u>" "</u>	<u>9/21/10</u>	<u>" 540 - 20 "</u>					<u>(Set 6477)</u>
<u>170982-171005</u>	<u>" "</u>	<u>9/21/10</u>	<u>" 541 - 24 "</u>					<u>(Set 6478)</u>
<u>171006-171027</u>	<u>" "</u>	<u>9/22/10</u>	<u>" 576 - 22 "</u>					<u>(Set 6479)</u>
<u>171028-171043</u>	<u>" "</u>	<u>9/22/10</u>	<u>" 575 - 16 "</u>					<u>(Set 6480)</u>
<u>171044-171055</u>	<u>" "</u>	<u>9/22/10</u>	<u>" 571 - 12 "</u>					<u>(Set 6481)</u>
<u>None follow</u>								
<u>PH</u>								

Relinquished By	Date	Received By	Date	Time	Special Instructions
<u>D. Horn</u> <u>D. Horn</u>	<u>9/23/10</u>	<u>[Signature]</u>	<u>9/27/10</u>	<u>US MAIL 1045</u>	<u>One(1) of boxes of 135 samples by US Postal Service</u>

C:\CatesLab\forms\bulkcoc-issued 06/29/2010

BUILDING 540

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 540
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/21/2010

Page 1 of 3

On 9/27/2010, twenty (20) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL170962	A01	White Window Glazing (exterior) - South Side, Middle Window, Bottom	2% Chrysotile (by PLM) 2.25% Chrysotile - Window Glazing (by Point Count)
CL170963	B01	Gray Window Glazing (interior) - Mid-Wall, Middle Window	2% Chrysotile (by PLM) 0.50% Chrysotile - Window Glazing (by Point Count)
CL170964	B02	Gray Window Glazing (interior) - Mid-Wall, West Window, Section 1	2% Chrysotile
CL170965	B03	Gray Window Glazing (interior) - Mid-Wall, West Window, Section 2	2% Chrysotile
CL170966	C01	Gray Transite - Mid-Wall, West End at Door	15% Chrysotile
CL170967	C02	Gray Transite - Mid-Wall, Debris Area, Section 1	15% Chrysotile
CL170968	C03	Gray Transite - Mid-Wall, Debris Area, Section 2	15% Chrysotile
CL170969	D01	Black Tar Paper - Mid-Wall, West End	None Detected
CL170970	D02	Black Tar Paper - Mid-Wall at West Window	None Detected
CL170971	D03	Black Tar Paper - Mid-Wall at West Door	None Detected
CL170972	E01	Drywall/Paint - Northeast Office above South Door	3% Chrysotile - Paint Texture None Detected - Paper None Detected - Wallboard Material
CL170973	E02	Drywall/Paint - Northwest Restroom at Middle	3% Chrysotile - Paint Texture None Detected - Paper None Detected - Wallboard Material
CL170974	E03	Drywall/Paint - Parts Room at Middle	3% Chrysotile - Paint Texture None Detected - Paper None Detected - Wallboard Material
CL170975	E04	Drywall/Paint - Parts Room at South Side	None Detected - Paint Layer None Detected - Paper None Detected - Wallboard Material

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client:	Dougherty Sprague Environmental, Inc.	Lab Job No.: PLM-03772
Project:	Fort Wolters, TX (USACE) - Building 540	Report Date: 10/5/2010
Project No:	1037503	Sample Date: 9/21/2010
Identification:	Asbestos, Bulk Sample Analysis	
Test Method:	Polarized Light Microscopy/Dispersion Staining (PLM/DS)	
	EPA Method 600/R-93/116	Page 2 of 3

On 9/27/2010, twenty (20) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL170976	E05	Drywall/Paint - Northeast Office at Exterior Door	None Detected - Paint Layer None Detected - Paper None Detected - Wallboard Material
CL170977	F01	White Window Glazing - West Side, North Window	None Detected
CL170978	G01	White Window Caulking - West Side, North Window	3% Chrysotile
CL170979	H01	Black Tar, Roof Debris - Northwest Corner of Older Bay	None Detected
CL170980	I01	White 1' X 1' ACT Debris - North Center of Older Bay	None Detected
CL170981	J01	Window Glazing Compound - Building 540, Original South Side	2% Chrysotile

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 540
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/21/2010

Page 3 of 3

On 9/27/2010, twenty (20) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein.

STATEMENT OF LABORATORY ACCREDITATION

The samples were analyzed in general accordance with the procedures outlined in the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116 or the U.S. Environmental Protection Agency method, under AHERA, for the analysis of asbestos in building materials by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Specific questions concerning bulk sample results shall be directed to the Laboratory Director.

Analyst: Kathy Schosek, John R. Cates

Laboratory Director: John R. Cates, P.G.

Approved Signatory:



NVLAP LAB CODE 200569-0

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170962**Field ID #: **A01**Client Sample Description: **White Window Glazing (exterior) - South Side, Middle Window, Bottom****Layer 1 Window Glazing**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Hard	Yes	<1	<1	100

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	98		Non-fibrous						
Chrysotile	2	1	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **mechanical separation**Asbestos Content: **2% Chrysotile
(by PLM)
2.25% Chrysotile
(by Point Count)**

Comments:

Analyst: **Kathy Schosek, John R. Cates**Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170962**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170963**Field ID #: **B01**Client Sample Description: **Gray Window Glazing (interior) - Mid-Wall, Middle Window****Layer 1 Window Glazing**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard	Yes	<1	<1	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	98		Non-fibrous						
Chrysotile	2	1	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u>	mechanical separation			<u>Asbestos Content:</u> 2% Chrysotile (by PLM) 0.50% Chrysotile (by Point Count)					

Comments:

Analyst: **Kathy Schosek, John R. Cates**Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170963**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170964**Field ID #: **B02**Client Sample Description: **Gray Window Glazing (interior) - Mid-Wall, West Window, Section 1****Layer 1 Window Glazing**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard	Yes	<1	<1	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	98		Non-fibrous						
Chrysotile	2	1	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> 2% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170964**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170965**Field ID #: **B03**Client Sample Description: **Gray Window Glazing (interior) - Mid-Wall, West Window, Section 2****Layer 1 Window Glazing**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard	Yes	<1	<1	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	98		Non-fibrous						
Chrysotile	2	1	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> 2% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170965**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170966**Field ID #: **C01**Client Sample Description: **Gray Transite - Mid-Wall, West End at Door****Layer 1 Cement Board**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard / Fibrous	Yes	15	15	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cement Binders	85		Non-fibrous						
Chrysotile	15	10	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation			<u>Asbestos Content:</u> 15% Chrysotile						

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170966**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170967**Field ID #: **C02**Client Sample Description: **Gray Transite - Mid-Wall, Debris Area, Section 1****Layer 1 Cement Board**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard / Fibrous	Yes	15	15	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cement Binders	85		Non-fibrous						
Chrysotile	15	10	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation			<u>Asbestos Content:</u> 15% Chrysotile						

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170967**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170968**Field ID #: **C03**Client Sample Description: **Gray Transite - Mid-Wall, Debris Area, Section 2****Layer 1 Cement Board**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard / Fibrous	Yes	15	15	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cement Binders	85		Non-fibrous						
Chrysotile	15	10	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> 15% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170968**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170969**Field ID #: **D01**Client Sample Description: **Black Tar Paper - Mid-Wall, West End****Layer 1 Felt**

Stereoscopic Examination

ColorTextureHomogeneous?% Fibrous% Asbestos% of Sample**Black****Fibrous****Yes****65****ND****100**

PLM Examination:

Components%+/-MorphologyColor/
PleochroismParallel
Ref. IndexPerpendicular
Ref. IndexBirefExtinction
AngleSign of
Elongation**Cellulose Fibers****65****ribbons****Tar Binders****35****Non-fibrous**Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170970**Field ID #: **D02**Client Sample Description: **Black Tar Paper - Mid-Wall at West Window****Layer 1 Felt**

Stereoscopic Examination

ColorTextureHomogeneous?% Fibrous% Asbestos% of Sample**Black****Fibrous****Yes****65****ND****100**

PLM Examination:

Components%+/-MorphologyColor/
PleochroismParallel
Ref. IndexPerpendicular
Ref. IndexBirefExtinction
AngleSign of
Elongation**Cellulose Fibers****65****ribbons****Tar Binders****35****Non-fibrous**Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

**Cates Laboratories**

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

Bulk Asbestos Analysis Sheet

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**

Project # **1037503**

Sample #: **CL170971**

Field ID #: **D03**

Client Sample Description: **Black Tar Paper - Mid-Wall at West Door**

Layer 1 Felt**Stereoscopic Examination**

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Fibrous	Yes	65	ND	100

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	65		ribbons				high		
Tar Binders	35		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**

Lab Job #: **PLM-03772**

Sample #: **CL170971**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170972**Field ID #: **E01**Client Sample Description: **Drywall/Paint - Northeast Office above South Door****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **solvent dissolution** Asbestos Content: **3% Chrysotile**

Layer 2 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Layer 3 Wallboard Material

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170972**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project #: **1037503**Sample #: **CL170973**Field ID #: **E02**Client Sample Description: **Drywall/Paint - Northwest Restroom at Middle****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **solvent dissolution** Asbestos Content: **3% Chrysotile**

Layer 2 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Layer 3 Wallboard Material

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170973**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project #: **1037503**Sample #: **CL170974**Field ID #: **E03**Client Sample Description: **Drywall/Paint - Parts Room at Middle****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **solvent dissolution** Asbestos Content: **3% Chrysotile**

Layer 2 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Layer 3 Wallboard Material

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170974**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170975**Field ID #: **E04**Client Sample Description: **Drywall/Paint - Parts Room at South Side****Layer 1 Paint Layer**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Hard	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Paint	100								

Prep/treatment: **heat / melt**Asbestos Content: **None Detected****Layer 2 Paper**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 3 Wallboard Material**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170975**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project #: **1037503**Sample #: **CL170976**Field ID #: **E05**Client Sample Description: **Drywall/Paint - Northeast Office at Exterior Door****Layer 1 Paint Layer**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Hard	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Paint	100								

Prep/treatment: **heat / melt**Asbestos Content: **None Detected****Layer 2 Paper**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 3 Wallboard Material**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170976**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170977**Field ID #: **F01**Client Sample Description: **White Window Glazing - West Side, North Window****Layer 1 Window Glazing**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			White	Hard	Yes	ND	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	97		Non-fibrous						
Talc Fibers	3		Straight		1.59	1.54	high		+
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> None Detected					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170977**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170978**Field ID #: **G01**Client Sample Description: **White Window Caulking - West Side, North Window****Layer 1 Caulking**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			White	Hard	Yes	ND	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Fillers	96		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Talc Fibers	1		Straight		1.59	1.54	high		+
<u>Prep/treatment:</u>	heat / melt			<u>Asbestos Content:</u> 3% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170978**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170979**Field ID #: **H01**Client Sample Description: **Black Tar, Roof Debris - Northwest Corner of Older Bay****Layer 1 Roofing Debris**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Fibrous	Yes	20	ND	100

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	35		Non-fibrous						
Cellulose Fibers	20		ribbons						
Tar Binders	45		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170979**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 540**Project #: **1037503**Sample #: **CL170980**Field ID #: **I01**Client Sample Description: **White 1' X 1' ACT Debris - North Center of Older Bay****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			White w/wht pt	Fibrous	Yes	90	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Cellulose Fibers	30		ribbons				high		
Mineral Wool Fibers	60		Rods				0		
Prep/treatment: mechanical separation				Asbestos Content: None Detected					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170980**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 540**Project # **1037503**Sample #: **CL170981**Field ID #: **J01**Client Sample Description: **Window Glazing Compound - Building 540, Original South Side****Layer 1 Window Glazing**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Beige	Hard	Yes	ND	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	98		Non-fibrous						
Chrysotile	2	1	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> 2% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170981**

BUILDING 541

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.	Lab Job No.: PLM-03772
Project: Fort Wolters, TX (USACE) - Building 541	Report Date: 10/5/2010
Project No: 1037503	Sample Date: 9/21/2010
Identification: Asbestos, Bulk Sample Analysis	
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116	

Page 1 of 3

On 9/27/2010, twenty-four (24) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL170982	A01	Light Gray Window Glaze (WG) - South Side, West Window	None Detected
CL170983	A02	Light Gray Window Glaze (WG) - South Side, Middle Window	None Detected
CL170984	A03	Light Gray Window Glaze (WG) - East Side, 2nd Window from South Side	2% Chrysotile (by PLM) 1.50% Chrysotile (by Point Count)
CL170985	B01	White/Orange Ceiling Tile - Northwest Office at Door	None Detected
CL170986	B02	White/Orange Ceiling Tile - Northwest Office on South Side	None Detected
CL170987	B03	White/Orange Ceiling Tile - Northwest Office at Southeast Corner	None Detected
CL170988	C01	White Drywall/Paint - Northwest Office, Southwest Corner	3% Chrysotile - Paint Texture None Detected - Paper None Detected - Wallboard Material (by PLM) 2.75% Chrysotile - Paint Texture (by Point Count)
CL170989	C02	White Drywall/Paint - North Parts Room, Mid-Ceiling	None Detected - Paint Layer None Detected - Paper None Detected - Wallboard Material
CL170990	C03	White Drywall/Paint - North Parts Room, Southwest Area	3% Chrysotile - Paint Texture None Detected - Paper None Detected - Wallboard Material
CL170991	C04	White Drywall/Paint - North Parts Room, South Side	3% Chrysotile - Paint Texture None Detected - Paper None Detected - Wallboard Material
CL170992	C05	White Drywall/Paint - Northwest Office, Southwest Corner at Window	3% Chrysotile - Paint Texture None Detected - Paper None Detected - Wallboard Material

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 541
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/21/2010

Page 2 of 3

On 9/27/2010, twenty-four (24) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL170993	D01	Tan Drywall - Northeast Restroom, Section 1	None Detected - Paint Layer None Detected - Paper None Detected - Wallboard Material
CL170994	D02	Tan Drywall - Northeast Restroom, Section 2	None Detected - Paint Layer None Detected - Paper None Detected - Wallboard Material
CL170995	D03	Tan Drywall - Northeast Restroom, Section 3	None Detected - Paint Layer None Detected - Paper None Detected - Wallboard Material
CL170996	E01	White Transite - Mid-Wall, East Side	15% Chrysotile
CL170997	E02	White Transite - Northwest Exterior at Office Door	15% Chrysotile
CL170998	E03	White Transite - Northwest Corner of Building	15% Chrysotile
CL170999	F01	Black Tar Paper - Northwest Corner of Building	None Detected
CL171000	G01	White Window Glazing - Northwest Window, Bottom	2% Chrysotile
CL171001	H01	White Window Glazing - Northwest Window, South Side	5% Chrysotile
CL171002	G02	White Window Glazing - Northwest Window, Middle	2% Chrysotile
CL171003	I01	Gray Soffit Transite - Northwest Area over Door	15% Chrysotile
CL171004	J01	White TSI - Restroom at Water Heater	15% Amosite - Insulation 5% Chrysotile - Insulation
CL171005	K01	Ceiling System (DW, PT, JC) - North Center Room, Southwest Corner	None Detected - Paint Layer 3% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 541
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/21/2010

Page 3 of 3

On 9/27/2010, twenty-four (24) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein.

STATEMENT OF LABORATORY ACCREDITATION

The samples were analyzed in general accordance with the procedures outlined in the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116 or the U.S. Environmental Protection Agency method, under AHERA, for the analysis of asbestos in building materials by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Specific questions concerning bulk sample results shall be directed to the Laboratory Director.

Analyst: Kathy Schosek, John R. Cates

Laboratory Director: John R. Cates, P.G.

Approved Signatory:



NVLAP LAB CODE 200569-0

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL170982**Field ID #: **A01**Client Sample Description: **Light Gray Window Glaze (WG) - South Side, West Window****Layer 1 Window Glazing**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Lt. Grey	Blocky	Yes	ND	ND	100

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

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TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL170983**Field ID #: **A02**Client Sample Description: **Light Gray Window Glaze (WG) - South Side, Middle Window****Layer 1 Window Glazing**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>				
Lt. Grey	Blocky	Yes	ND	ND	100				
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	100		Non-fibrous						
<u>Prep/treatment:</u>	mechanical separation			<u>Asbestos Content:</u>	None Detected				

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170983**

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Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL170984**Field ID #: **A03**Client Sample Description: **Light Gray Window Glaze (WG) - East Side, 2nd Window from South Side****Layer 1 Window Glazing**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard	Yes	<1	<1	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	98		Non-fibrous						
Chrysotile	2	1	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u>	mechanical separation			<u>Asbestos Content:</u>		2% Chrysotile (by PLM) 1.50% Chrysotile (by Point Count)			

Comments:

Analyst: **Kathy Schosek, John R. Cates**Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170984**

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Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL170985**Field ID #: **B01**Client Sample Description: **White/Orange Ceiling Tile - Northwest Office at Door****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Orange/White	Fibrous	Yes	90	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Mineral Wool Fibers	90		Rods				0		
<u>Prep/treatment:</u> mechanical separation			<u>Asbestos Content:</u> None Detected						

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Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL170986**Field ID #: **B02**Client Sample Description: **White/Orange Ceiling Tile - Northwest Office on South Side****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Orange/White	Fibrous	Yes	90	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Mineral Wool Fibers	90		Rods				0		
<u>Prep/treatment:</u> mechanical separation			<u>Asbestos Content:</u> None Detected						

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170986**

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Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL170987**Field ID #: **B03**Client Sample Description: **White/Orange Ceiling Tile - Northwest Office at Southeast Corner****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Orange/White	Fibrous	Yes	90	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Mineral Wool Fibers	90		Rods				0		
<u>Prep/treatment:</u> mechanical separation			<u>Asbestos Content:</u> None Detected						

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Project: **Fort Wolters, TX (USACE) - Building 541**Project #: **1037503**Sample #: **CL170988**Field ID #: **C01**Client Sample Description: **White Drywall/Paint - Northwest Office, Southwest Corner****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **solvent dissolution**

Asbestos Content: **3% Chrysotile
(by PLM)
2.75% Chrysotile
(by Point Count)**

Layer 2 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 3 Wallboard Material**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek, John R. Cates**Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170988**

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Project: **Fort Wolters, TX (USACE) - Building 541**Project #: **1037503**Sample #: **CL170989**Field ID #: **C02**Client Sample Description: **White Drywall/Paint - North Parts Room, Mid-Ceiling****Layer 1 Paint Layer**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Hard	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Paint	100								

Prep/treatment: **heat / melt**Asbestos Content: **None Detected****Layer 2 Paper**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 3 Wallboard Material**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170989**

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Project: **Fort Wolters, TX (USACE) - Building 541**Project #: **1037503**Sample #: **CL170990**Field ID #: **C03**Client Sample Description: **White Drywall/Paint - North Parts Room, Southwest Area****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **solvent dissolution** Asbestos Content: **3% Chrysotile**

Layer 2 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Layer 3 Wallboard Material

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170990**

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Project: **Fort Wolters, TX (USACE) - Building 541**Project #: **1037503**Sample #: **CL170991**Field ID #: **C04**Client Sample Description: **White Drywall/Paint - North Parts Room, South Side****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **solvent dissolution** Asbestos Content: **3% Chrysotile**

Layer 2 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Layer 3 Wallboard Material

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170991**

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Project: **Fort Wolters, TX (USACE) - Building 541**Project #: **1037503**Sample #: **CL170992**Field ID #: **C05**Client Sample Description: **White Drywall/Paint - Northwest Office, Southwest Corner at Window****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **solvent dissolution** Asbestos Content: **3% Chrysotile**

Layer 2 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Layer 3 Wallboard Material

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170992**



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Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 541**

Project # **1037503**

Sample #: **CL170993**

Field ID #: **D01**

Client Sample Description: **Tan Drywall - Northeast Restroom, Section 1**

Layer 1 Paint Layer

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Hard	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Paint	100								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Layer 2 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Layer 3 Wallboard Material

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**

Lab Job #: **PLM-03772**

Sample #: **CL170993**



Cates Laboratories
613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

Bulk Asbestos Analysis Sheet

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 541**

Project #: **1037503**

Sample #: **CL170994**

Field ID #: **D02**

Client Sample Description: **Tan Drywall - Northeast Restroom, Section 2**

Layer 1 Paint Layer

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Hard	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Paint	100								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Layer 2 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Layer 3 Wallboard Material

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**

Lab Job #: **PLM-03772**

Sample #: **CL170994**



Cates Laboratories
613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

Bulk Asbestos Analysis Sheet

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 541**

Project #: **1037503**

Sample #: **CL170995**

Field ID #: **D03**

Client Sample Description: **Tan Drywall - Northeast Restroom, Section 3**

Layer 1 Paint Layer

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Hard	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Paint	100								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Layer 2 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Layer 3 Wallboard Material

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**

Lab Job #: **PLM-03772**

Sample #: **CL170995**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL170996**Field ID #: **E01**Client Sample Description: **White Transite - Mid-Wall, East Side****Layer 1 Cement Board**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard / Fibrous	Yes	15	15	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cement Binders	85		Non-fibrous						
Chrysotile	15	7	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> 15% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170996**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL170997**Field ID #: **E02**Client Sample Description: **White Transite - Northwest Exterior at Office Door****Layer 1 Cement Board**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard / Fibrous	Yes	15	15	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cement Binders	85		Non-fibrous						
Chrysotile	15	7	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> 15% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170997**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL170998**Field ID #: **E03**Client Sample Description: **White Transite - Northwest Corner of Building****Layer 1 Cement Board**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard / Fibrous	Yes	15	15	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cement Binders	85		Non-fibrous						
Chrysotile	15	7	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> 15% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170998**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL170999**Field ID #: **F01**Client Sample Description: **Black Tar Paper - Northwest Corner of Building****Layer 1 Felt**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Fibrous	Yes	65	ND	100

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	65		ribbons						
Tar Binders	35		Non-fibrous				high		

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170999**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL171000**Field ID #: **G01**Client Sample Description: **White Window Glazing - Northwest Window, Bottom****Layer 1 Window Glazing**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Hard	Yes	<1	<1	100

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	98		Non-fibrous						
Chrysotile	2	1	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **mechanical separation** Asbestos Content: **2% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171000**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL171001**Field ID #: **H01**Client Sample Description: **White Window Glazing - Northwest Window, South Side****Layer 1 Window Glazing**

Stereoscopic Examination

ColorTextureHomogeneous?% Fibrous% Asbestos% of Sample**White****Hard****Yes****5****5****100**

PLM Examination:

Components%+/-MorphologyColor/
PleochroismParallel
Ref. IndexPerpendicular
Ref. IndexBirefExtinction
AngleSign of
Elongation**Aggregate/Binders****95****Non-fibrous****None****1.556****1.549****low****Parallel****+****Chrysotile****5****4****Silky / Wavy****None****1.556****1.549****low****Parallel****+**Prep/treatment: **mechanical separation**Asbestos Content: **5% Chrysotile**

Comments:

Analyst:

Kathy Schosek

Date Analyzed:

9/28/2010Lab Job #: **PLM-03772**Sample #: **CL171001**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL171002**Field ID #: **G02**Client Sample Description: **White Window Glazing - Northwest Window, Middle****Layer 1 Window Glazing**

Stereoscopic Examination

ColorTextureHomogeneous?% Fibrous% Asbestos% of Sample**White****Hard****Yes****<1****<1****100**

PLM Examination:

Components%+/-MorphologyColor/
PleochroismParallel
Ref. IndexPerpendicular
Ref. IndexBirefExtinction
AngleSign of
Elongation**Aggregate/Binders****98****Non-fibrous****None****1.556****1.549****low****Parallel****+****Chrysotile****2****1****Silky / Wavy**Prep/treatment: **mechanical separation**Asbestos Content: **2% Chrysotile**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL171003**Field ID #: **I01**Client Sample Description: **Gray Soffit Transite - Northwest Area over Door****Layer 1 Cement Board**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard / Fibrous	Yes	15	15	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cement Binders	85		Non-fibrous						
Chrysotile	15	7	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> 15% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171003**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 541**Project #: **1037503**Sample #: **CL171004**Field ID #: **J01**Client Sample Description: **White TSI - Restroom at Water Heater****Layer 1 Insulation**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>		
			White	Fibrous	Yes	20	20	100		
PLM Examination:										
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>	
Amosite	15	7	straight	None	1.701	1.678	mod	Parallel	+	
Binders / Fillers	80		Non-fibrous							
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+	
<u>Prep/treatment:</u>	mechanical separation			<u>Asbestos Content:</u>		15% Amosite 5% Chrysotile				

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171004**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 541**Project # **1037503**Sample #: **CL171005**Field ID #: **K01**Client Sample Description: **Ceiling System (DW, PT, JC) - North Center Room, Southwest Corner****Layer 1 Paint Layer**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Hard	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Paint	100								

Prep/treatment: **heat / melt**Asbestos Content: **None Detected****Layer 2 Joint Compound**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	30

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **mechanical separation**Asbestos Content: **3% Chrysotile****Layer 3 Paper**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 4 Wallboard Material**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	55

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171005**

BUILDING 578

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 578
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 9/29/2010
Sample Date: 9/21/2010

Page 1 of 2

On 9/27/2010, seven (7) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL170955	A01	Drywall/Paint/Joint Compound - East Room, Southwest Corner at Window	5% Chrysotile - Paint Texture None Detected - Joint Tape 5% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material
CL170956	A02	Drywall/Paint/Joint Compound - East Room, Southwest Corner at Cross Beam	5% Chrysotile - Paint Texture None Detected - Joint Tape 5% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material
CL170957	A03	Drywall/Paint/Joint Compound - West Room at Door	5% Chrysotile - Paint Texture None Detected - Joint Tape 5% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material
CL170958	B01	White Window Glazing - West Room, West Window, Bottom	None Detected
CL170959	B02	White Window Glazing - West Room, West Window, Middle	None Detected
CL170960	B03	White Window Glazing - West Room, Souht Window, Bottom	None Detected
CL170961	C01	White Window Caulking - West Window, Exterior	None Detected

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 578
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 9/29/2010
Sample Date: 9/21/2010

Page 2 of 2

On 9/27/2010, seven (7) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein.

STATEMENT OF LABORATORY ACCREDITATION

The samples were analyzed in general accordance with the procedures outlined in the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116 or the U.S. Environmental Protection Agency method, under AHERA, for the analysis of asbestos in building materials by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Specific questions concerning bulk sample results shall be directed to the Laboratory Director.

Analyst: Kathy Schosek

Laboratory Director: John R. Cates, P.G.

Approved Signatory:



NVLAP LAB CODE 200569-0

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 578**Project #: **1037503**Sample #: **CL170955**Field ID #: **A01**Client Sample Description: **Drywall/Paint/Joint Compound - East Room, Southwest Corner at Window****Layer 1 Paint Texture**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders/Paint	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: solvent dissolution Asbestos Content: 5% Chrysotile

Layer 2 Joint Tape

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 3 Joint Compound

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: mechanical separation Asbestos Content: 5% Chrysotile

Layer 4 Paper

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 5 Wallboard Material

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	2	ND	30

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	3		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Glass Fibers	1		straight	none			none		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: mechanical separation Asbestos Content: None Detected

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170955**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 578**Project #: **1037503**Sample #: **CL170956**Field ID #: **A02**Client Sample Description: **Drywall/Paint/Joint Compound - East Room, Southwest Corner at Cross Beam****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	25

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **solvent dissolution** Asbestos Content: **5% Chrysotile**

Layer 2 Joint Tape

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Layer 3 Joint Compound

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	25

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **mechanical separation** Asbestos Content: **5% Chrysotile**

Layer 4 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Layer 5 Wallboard Material

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	30

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Glass Fibers	1		straight	none			none		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170956**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 578**Project #: **1037503**Sample #: **CL170957**Field ID #: **A03**Client Sample Description: **Drywall/Paint/Joint Compound - West Room at Door****Layer 1 Paint Texture**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders/Paint	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: solvent dissolution Asbestos Content: 5% Chrysotile

Layer 2 Joint Tape

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 3 Joint Compound

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: mechanical separation Asbestos Content: 5% Chrysotile

Layer 4 Paper

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 5 Wallboard Material

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	1	ND	30

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	4		Non-fibrous						
Glass Fibers	1		straight	none			none		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: mechanical separation Asbestos Content: None Detected

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170957**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 578**Project # **1037503**Sample #: **CL170958**Field ID #: **B01**Client Sample Description: **White Window Glazing - West Room, West Window, Bottom****Layer 1 Window Glazing**

Stereoscopic Examination

ColorTextureHomogeneous?% Fibrous% Asbestos% of Sample**White****Blocky****Yes****ND****ND****100**

PLM Examination:

Components%+/-MorphologyColor/PleochroismParallelRef. IndexPerpendicularRef. IndexBirefExtinctionAngleSign ofElongation**Aggregate/Binders****100****Non-fibrous**Prep/treatment:**mechanical separation**Asbestos Content:**None Detected**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 578**Project # **1037503**Sample #: **CL170959**Field ID #: **B02**Client Sample Description: **White Window Glazing - West Room, West Window, Middle****Layer 1 Window Glazing**

Stereoscopic Examination

ColorTextureHomogeneous?% Fibrous% Asbestos% of Sample**White****Blocky****Yes****ND****ND****100**

PLM Examination:

Components%+/-MorphologyColor/
PleochroismParallel
Ref. IndexPerpendicular
Ref. IndexBirefExtinction
AngleSign of
Elongation**Aggregate/Binders****100****Non-fibrous**Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 578**Project # **1037503**Sample #: **CL170960**Field ID #: **B03**Client Sample Description: **White Window Glazing - West Room, Souht Window, Bottom****Layer 1 Window Glazing**

Stereoscopic Examination

ColorTextureHomogeneous?% Fibrous% Asbestos% of Sample**White****Blocky****Yes****ND****ND****100**

PLM Examination:

Components%+/-MorphologyColor/PleochroismParallelRef. IndexPerpendicularRef. IndexBirefExtinctionAngleSign ofElongation**Aggregate/Binders****100****Non-fibrous**Prep/treatment:**mechanical separation**Asbestos Content:**None Detected**

**Cates Laboratories**

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

Bulk Asbestos Analysis Sheet

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 578**

Project # **1037503**

Sample #: **CL170961**

Field ID #: **C01**

Client Sample Description: **White Window Caulking - West Window, Exterior**

Layer 1 Caulking**Stereoscopic Examination**

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>				
Off White	Rubbery	Yes	ND	ND	100				
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	100		Non-fibrous						
<u>Prep/treatment:</u>	heat / melt			<u>Asbestos Content:</u>	None Detected				

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**

Lab Job #: **PLM-03772**

Sample #: **CL170961**

BUILDING 551

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 551
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/22/2010

Page 1 of 4

On 9/27/2010, thirty-one (31) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL170921	A01	Green 9" X 9" Floor Tile w/Black Mastic - Room 4, West Side	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL170922	A02	Green 9" X 9" Floor Tile w/Black Mastic - Room 1, West Side	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL170923	A03	Green 9" X 9" Floor Tile w/Black Mastic - Room 11, North Side	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL170924	B01	Drywall/Paint/Joint Compound - Room 1, North Side	3% Chrysotile - Paint Texture None Detected - Joint Tape 3% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material
CL170925	B02	Drywall/Paint/Joint Compound - Room 1, Northeast Corner at Door	3% Chrysotile - Paint Texture None Detected - Joint Tape 3% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material
CL170926	B03	Drywall/Paint/Joint Compound - Room 5, North Side at Double Door	3% Chrysotile - Paint Texture None Detected - Joint Tape 3% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material (by PLM) 1.50% Chrysotile - Joint Compound (by Point Count)
CL170927	B04	Drywall/Paint/Joint Compound - Room 5, North Side at West End	3% Chrysotile - Paint Texture None Detected - Joint Tape 3% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material
CL170928	C01	White Window Glazing - Room 5, South Side, Left Center Window	2% Chrysotile

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 551
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/22/2010

Page 2 of 4

On 9/27/2010, thirty-one (31) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL170929	D01	Black Wrap/Mastic - Room 5, Air Handler Line, Elbow	None Detected - Wrap/Mastic None Detected - Insulation
CL170930	D02	Black Wrap/Mastic - Room 5, Air Handler Line, Fitting at Chalkboard	None Detected - Wrap/Mastic None Detected - Insulation
CL170931	D03	Black Wrap/Mastic - Room 5, Air Handler Line, Fitting at Southwest Corner	None Detected - Wrap/Mastic None Detected - Insulation
CL170932	E01	Black Wrap/Mastic - Room 5, Air Handler Line at Southwest Corner	None Detected - Wrap/Mastic None Detected - Insulation
CL170933	E02	Black Wrap/Mastic - Room 5, Air Handler Line at South Center	None Detected - Wrap/Mastic None Detected - Insulation
CL170934	E03	Black Wrap/Mastic - Room 5, Air Handler Line at East Side	None Detected - Wrap/Mastic None Detected - Insulation
CL170935	F01	Insulation/Wrap - Room 5, West Side in Wall Void	65% Chrysotile - Wrap None Detected - Insulation
CL170936	G01	TSI Debris - Room 5, West Side in Wall Void	15% Amosite 5% Chrysotile
CL170937	H01	TSI w/Wrap - Room 5, West Side in Debris Area	65% Chrysotile - Wrap None Detected - Insulation
CL170938	I01	Roof Debris (type 1) - Room 5, Center	None Detected
CL170939	J01	Exterior Door Caulk - South Entry to Room 5	None Detected
CL170940	K01	Roof Debris (type 2) - South Side of Room 5	None Detected
CL170941	L01	Gray TSI - Boiler Flue	65% Chrysotile
CL170942	M01	Light Gray Transite Panel - Boiler Room, South Wall	20% Chrysotile
CL170943	N01	Exterior Transite Cover - South Side of Building at Boiler Entry	20% Chrysotile
CL170944	O01	Boiler Insulation - East Side of Boiler	75% Chrysotile

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 551
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/22/2010

Page 3 of 4

On 9/27/2010, thirty-one (31) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL170945	P01	Vessel Insulation - Boiler Room, Elevated Vessel	15% Amosite - White Insulation 5% Chrysotile - White Insulation 75% Chrysotile - Grey Insulation
CL170946	Q01	HVAC Duct Mastic - Boiler Room, Center	None Detected - Black Mastic None Detected - Wrap None Detected - Insulation
CL170947	R01	Transite/Tar Paper - Boiler Room at Exterior Door	20% Chrysotile - Cement Board None Detected - Felt
CL170948	S01	Exterior Air Handler Insulation - Exterior Air Handler, South of Building	75% Chrysotile
CL170949	T01	Tar Wrap - Boiler Room, 1" Line at Small Vessel	10% Chrysotile
CL170950	U01	Tile/Mastic - Southeast Entry to Room 5	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL170951	V01	Line Insulation/Mastic - Building Center in Main Room	None Detected - Black Mastic None Detected - Insulation

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 551
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/22/2010

Page 4 of 4

On 9/27/2010, thirty-one (31) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein.

STATEMENT OF LABORATORY ACCREDITATION

The samples were analyzed in general accordance with the procedures outlined in the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116 or the U.S. Environmental Protection Agency method, under AHERA, for the analysis of asbestos in building materials by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Specific questions concerning bulk sample results shall be directed to the Laboratory Director.

Analyst: Kathy Schosek, John R. Cates

Laboratory Director: John R. Cates, P.G.

Approved Signatory:



NVLAP LAB CODE 200569-0

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170921**Field ID #: **A01**Client Sample Description: **Green 9" X 9" Floor Tile w/Black Mastic - Room 4, West Side****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Grey/Green	Hard	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170921**

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NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170922**Field ID #: **A02**Client Sample Description: **Green 9" X 9" Floor Tile w/Black Mastic - Room 1, West Side****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Grey/Green	Hard	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170922**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170923**Field ID #: **A03**Client Sample Description: **Green 9" X 9" Floor Tile w/Black Mastic - Room 11, North Side****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Grey/Green	Hard	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170923**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170924**Field ID #: **B01**Client Sample Description: **Drywall/Paint/Joint Compound - Room 1, North Side****Layer 1 Paint Texture**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: solvent dissolution Asbestos Content: 3% Chrysotile

Layer 2 Joint Tape

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 3 Joint Compound

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: mechanical separation Asbestos Content: 3% Chrysotile

Layer 4 Paper

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 5 Wallboard Material

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	1	ND	30

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: mechanical separation Asbestos Content: None Detected

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170924**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170925**Field ID #: **B02**Client Sample Description: **Drywall/Paint/Joint Compound - Room 1, Northeast Corner at Door****Layer 1 Paint Texture**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: solvent dissolution Asbestos Content: 3% Chrysotile

Layer 2 Joint Tape

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 3 Joint Compound

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: mechanical separation Asbestos Content: 3% Chrysotile

Layer 4 Paper

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 5 Wallboard Material

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	1	ND	30

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: mechanical separation Asbestos Content: None Detected

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170925**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170926**Field ID #: **B03**Client Sample Description: **Drywall/Paint/Joint Compound - Room 5, North Side at Double Door****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	25

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **solvent dissolution** Asbestos Content: **3% Chrysotile**

Layer 2 Joint Tape

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Layer 3 Joint Compound

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	25

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **mechanical separation** Asbestos Content: **3% Chrysotile (by PLM)**
1.50% Chrysotile (by Point Count)

Layer 4 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek, John R. Cates**Date Analyzed: **9/28/2010, 10/4/2010**Lab Job #: **PLM-03772**Sample #: **CL170926**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170926**Field ID #: **B03**Client Sample Description: **Drywall/Paint/Joint Compound - Room 5, North Side at Double Door****Layer 5 Wallboard Material**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	30

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons						
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek, John R. Cates**Date Analyzed: **9/28/2010, 10/4/2010**Lab Job #: **PLM-03772**Sample #: **CL170926**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170927**Field ID #: **B04**Client Sample Description: **Drywall/Paint/Joint Compound - Room 5, North Side at West End****Layer 1 Paint Texture**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: solvent dissolution Asbestos Content: 3% Chrysotile

Layer 2 Joint Tape

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 3 Joint Compound

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: mechanical separation Asbestos Content: 3% Chrysotile

Layer 4 Paper

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 5 Wallboard Material

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	1	ND	30

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: mechanical separation Asbestos Content: None Detected

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170927**

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Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170928**Field ID #: **C01**Client Sample Description: **White Window Glazing - Room 5, South Side, Left Center Window****Layer 1 Window Glazing**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			White	Hard	Yes	ND	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	95		Non-fibrous						
Chrysotile	2	1	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Talc Fibers	3		Straight		1.59	1.54	high		+
Prep/treatment:	mechanical separation			Asbestos Content: 2% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170928**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170929**Field ID #: **D01**Client Sample Description: **Black Wrap/Mastic - Room 5, Air Handler Line, Elbow****Layer 1 Wrap/Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan/Black	Fibrous	Yes	65	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	65		ribbons				high		
Tar Binders	35		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 2 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Fibrous	Yes	100	ND	90

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170929**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170930**Field ID #: **D02**Client Sample Description: **Black Wrap/Mastic - Room 5, Air Handler Line, Fitting at Chalkboard****Layer 1 Wrap/Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan/Black	Fibrous	Yes	65	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	65		ribbons				high		
Tar Binders	35		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 2 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Fibrous	Yes	100	ND	90

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170930**

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Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170931**Field ID #: **D03**Client Sample Description: **Black Wrap/Mastic - Room 5, Air Handler Line, Fitting at Southwest Corner****Layer 1 Wrap/Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan/Black	Fibrous	Yes	65	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	65		ribbons				high		
Tar Binders	35		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 2 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Fibrous	Yes	100	ND	90

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170931**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170932**Field ID #: **E01**Client Sample Description: **Black Wrap/Mastic - Room 5, Air Handler Line at Southwest Corner****Layer 1 Wrap/Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan/Black	Fibrous	Yes	65	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	65		ribbons				high		
Tar Binders	35		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 2 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Yellow	Fibrous	Yes	100	ND	90

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170932**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170933**Field ID #: **E02**Client Sample Description: **Black Wrap/Mastic - Room 5, Air Handler Line at South Center****Layer 1 Wrap/Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan/Black	Fibrous	Yes	65	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	65		ribbons				high		
Tar Binders	35		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 2 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Yellow	Fibrous	Yes	100	ND	90

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170933**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170934**Field ID #: **E03**Client Sample Description: **Black Wrap/Mastic - Room 5, Air Handler Line at East Side****Layer 1 Wrap/Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan/Black	Fibrous	Yes	65	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	65		ribbons				high		
Tar Binders	35		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 2 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Yellow	Fibrous	Yes	100	ND	90

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170934**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170935**Field ID #: **F01**Client Sample Description: **Insulation/Wrap - Room 5, West Side in Wall Void****Layer 1 Wrap**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Fibrous	Yes	65	65	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Chrysotile	65	10	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Tar Binders	35		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **65% Chrysotile****Layer 2 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	95	ND	90

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Fillers	5	0	Non-fibrous						
Cellulose Fibers	95		ribbons				high		

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170935**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170936**Field ID #: **G01**Client Sample Description: **TSI Debris - Room 5, West Side in Wall Void****Layer 1 Insulation**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>		
			White	Fibrous	Yes	20	20	100		
PLM Examination:										
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>	
Amosite	15	7	straight	None	1.701	1.678	mod	Parallel	+	
Binders / Fillers	80		Non-fibrous							
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+	
<u>Prep/treatment:</u>	mechanical separation				<u>Asbestos Content:</u>	15% Amosite 5% Chrvsotile				

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170936**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170937**Field ID #: **H01**Client Sample Description: **TSI w/Wrap - Room 5, West Side in Debris Area****Layer 1 Wrap**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Fibrous	Yes	65	65	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Chrysotile	65	10	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Tar Binders	35		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **65% Chrysotile****Layer 2 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	95	ND	90

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Fillers	5	0	Non-fibrous						
Cellulose Fibers	95		ribbons				high		

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170937**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170938**Field ID #: **I01**Client Sample Description: **Roof Debris (type 1) - Room 5, Center****Layer 1 Roofing Felt**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Fibrous	Yes	35	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Glass Fibers	35		straight	none			none		
Tar Binders	65		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 2 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Fibrous	Yes	95	ND	90

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170938**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170939**Field ID #: **J01**Client Sample Description: **Exterior Door Caulk - South Entry to Room 5****Layer 1 Caulking**

Stereoscopic Examination

ColorTextureHomogeneous?% Fibrous% Asbestos% of Sample**White****Rubbery****Yes****ND****ND****100**

PLM Examination:

Components%+/-MorphologyColor/PleochroismParallelRef. IndexPerpendicularRef. IndexBirefExtinctionAngleSign ofElongation**Aggregate/Binders****100****Non-fibrous**Prep/treatment: **heat / melt**Asbestos Content: **None Detected**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170940**Field ID #: **K01**Client Sample Description: **Roof Debris (type 2) - South Side of Room 5****Layer 1 Roofing Debris**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	25	ND	100

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	70		Non-fibrous						
Cellulose Fibers	30		ribbons						

Prep/treatment: **heat / melt**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170940**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170941**Field ID #: **L01**Client Sample Description: **Gray TSI - Boiler Flue****Layer 1 Insulation**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Lt. Grey	Fibrous	Yes	65	65	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Fillers	35		Non-fibrous						
Chrysotile	65	10	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> 65% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170941**

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Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170942**Field ID #: **M01**Client Sample Description: **Light Gray Transite Panel - Boiler Room, South Wall****Layer 1 Cement Board**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Lt. Grey	Hard / Fibrous	Yes	20	20	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cement Binders	80		Non-fibrous						
Chrysotile	20	10	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> 20% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170942**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170943**Field ID #: **N01**Client Sample Description: **Exterior Transite Cover - South Side of Building at Boiler Entry****Layer 1 Cement Board**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard / Fibrous	Yes	20	20	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cement Binders	80		Non-fibrous						
Chrysotile	20	10	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation			<u>Asbestos Content:</u> 20% Chrysotile						

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170943**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170944**Field ID #: **O01**Client Sample Description: **Boiler Insulation - East Side of Boiler****Layer 1 Insulation**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Lt. Grey	Fibrous	Yes	75	75	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Fillers	25		Non-fibrous						
Chrysotile	75	10	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> 75% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170944**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170945**Field ID #: **P01**Client Sample Description: **Vessel Insulation - Boiler Room, Elevated Vessel****Layer 1 White Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Fibrous	Yes	20	20	50

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Amosite	15	7	straight	None	1.701	1.678	mod	Parallel	+
Binders / Fillers	80		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **mechanical separation**Asbestos Content: **15% Amosite
5% Chrysotile****Layer 2 Grey Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Lt. Grey	Fibrous	Yes	75	75	50

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Fillers	25		Non-fibrous						
Chrysotile	75	10	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **mechanical separation**Asbestos Content: **75% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170945**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

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NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170946**Field ID #: **Q01**Client Sample Description: **HVAC Duct Mastic - Boiler Room, Center****Layer 1 Black Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	20	ND	30

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Glass Fibers	20		straight	none			none		
Tar Binders	80		Non-fibrous						

Prep/treatment: **heat / melt**Asbestos Content: **None Detected****Layer 2 Wrap**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Silver	Metallic	No	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Metal Foil	100			Opaque					

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 3 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Yellow-Tan	Fibrous	Yes	100	ND	60

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170946**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170947**Field ID #: **R01**Client Sample Description: **Transite/Tar Paper - Boiler Room at Exterior Door****Layer 1 Cement Board**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Grey	Hard / Fibrous	Yes	20	20	90

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cement Binders	80		Non-fibrous						
Chrysotile	20	10	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **mechanical separation**Asbestos Content: **20% Chrysotile****Layer 2 Felt**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Fibrous	Yes	65	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	65		ribbons				high		
Tar Binders	35		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170947**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170948**Field ID #: **S01**Client Sample Description: **Exterior Air Handler Insulation - Exterior Air Handler, South of Building****Layer 1 Insulation**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>		
			Off White	Fibrous	Yes	75	75	100		
PLM Examination:										
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>	
Binders	20		Non-fibrous							
Cellulose Fibers	5		ribbons				high			
Chrysotile	75	10	Silky / Wavy	None	1.556	1.549	low	Parallel	+	
<u>Prep/treatment:</u>	mechanical separation			<u>Asbestos Content:</u>		75% Chrysotile				

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170948**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project # **1037503**Sample #: **CL170949**Field ID #: **T01**Client Sample Description: **Tar Wrap - Boiler Room, 1" Line at Small Vessel****Layer 1 Wrap**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Black	Rubbery	No	ND	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Chrysotile	10		Silky / Wavy	None	1.556	1.549	low	Parallel	+
Cork	30		Closed Cells						
Tar Binders	60		Non-fibrous						
Prep/treatment:	heat / melt			Asbestos Content: 10% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170949**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170950**Field ID #: **U01**Client Sample Description: **Tile/Mastic - Southeast Entry to Room 5****Layer 1 Floor Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Grey	Hard	Yes	ND	ND	95	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Prep/treatment:	heat / melt			Asbestos Content: 5% Chrysotile					

Layer 2 Black Mastic

Stereoscopic Examination

Layer 1			Black matrix		Stereoscope Examination				
			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Black	Asphaltic	Yes	ND	ND	5	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Prep/treatment: heat / melt				Asbestos Content: 5% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170950**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 551**Project #: **1037503**Sample #: **CL170951**Field ID #: **V01**Client Sample Description: **Line Insulation/Mastic - Building Center in Main Room****Layer 2 Black Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**Asbestos Content: **None Detected****Layer 3 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown/Grey	Fibrous	Yes	100	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170951**

BUILDING 552

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.

Project: Fort Wolters, TX (USACE) - Building 552

Project No: 1037503

Identification: Asbestos, Bulk Sample Analysis

Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772

Report Date: 9/29/2010

Sample Date: 9/22/2010

Page 1 of 2

On 9/27/2010, three (3) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL170952	A01	White 1' X 2' Acoustic Ceiling Tile/Brown Mastic - South Wall	None Detected - Ceiling Tile None Detected - Brown Mastic
CL170953	A02	White 1' X 2' Acoustic Ceiling Tile/Brown Mastic - North Wall, East Side	None Detected - Ceiling Tile None Detected - Brown Mastic
CL170954	A03	White 1' X 2' Acoustic Ceiling Tile/Brown Mastic - North Wall, West Side	None Detected - Ceiling Tile None Detected - Brown Mastic

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 552
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 9/29/2010
Sample Date: 9/22/2010

Page 2 of 2

On 9/27/2010, three (3) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein.

STATEMENT OF LABORATORY ACCREDITATION

The samples were analyzed in general accordance with the procedures outlined in the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116 or the U.S. Environmental Protection Agency method, under AHERA, for the analysis of asbestos in building materials by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Specific questions concerning bulk sample results shall be directed to the Laboratory Director.

Analyst: Kathy Schosek

Laboratory Director: John R. Cates, P.G.

Approved Signatory:



NVLAP LAB CODE 200569-0

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 552**Project # **1037503**Sample #: **CL170952**Field ID #: **A01**Client Sample Description: **White 1' X 2' Acoustic Ceiling Tile/Brown Mastic - South Wall****Layer 1 Ceiling Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Yellow	Fibrous	Yes	90	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Mineral Wool Fibers	90		Rods				0		
Wollastonite	<1		Laths						+/-

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 2 Brown Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Hard	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170952**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

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Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 552**Project # **1037503**Sample #: **CL170953**Field ID #: **A02**Client Sample Description: **White 1' X 2' Acoustic Ceiling Tile/Brown Mastic - North Wall, East Side****Layer 1 Ceiling Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Yellow	Fibrous	Yes	90	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Mineral Wool Fibers	90		Rods				0		
Wollastonite	<1		Laths						+/-

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 2 Brown Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Hard	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170953**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 552**Project # **1037503**Sample #: **CL170954**Field ID #: **A03**Client Sample Description: **White 1' X 2' Acoustic Ceiling Tile/Brown Mastic - North Wall, West Side****Layer 1 Ceiling Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Yellow	Fibrous	Yes	90	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Mineral Wool Fibers	90		Rods				0		
Wollastonite	<1		Laths						+/-

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 2 Brown Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Hard	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL170954**

BUILDING 571

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc. Project: Fort Wolters, TX (USACE) - Building 571 Project No: 1037503 Identification: Asbestos, Bulk Sample Analysis Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116	Lab Job No.: PLM-03772 Report Date: 9/29/2010 Sample Date: 9/22/2010
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------

Page 1 of 2

On 9/27/2010, twelve (12) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL171044	A01	Wall Plaster - Room 1, North Side at Door	None Detected
CL171045	A02	Wall Plaster - Room 1, Northwest Corner	None Detected
CL171046	A03	Wall Plaster - Room 3, North Side at Door	None Detected
CL171047	B01	Roof Debris - Room 2, North Side	5% Chrysotile - Roofing Mastic None Detected - Roofing Membrane
CL171048	C01	CMU Surfacing - North Exterior at Entry to Room 1	None Detected
CL171049	C02	Exterior CMU, Mortar and Surfacing - Northeast Corner of Building	None Detected - Paint Texture None Detected - CMU Block/Mortar
CL171050	D01	Acoustic Ceiling Tile Debris - Room 1, West Side	5% Amosite
CL171051	E01	Plaster - North Interior Wall	None Detected
CL171052	F01	Window Glazing - North Side at Northeast Corner Window, Room 3	None Detected
CL171053	G01	Green 9" X 9" Vinyl Floor Tile/Mastic - Northeast Portion of Room 4	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL171054	G02	Green 9" X 9" Vinyl Floor Tile/Mastic - Room 3, Center	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL171055	G03	Green 9" X 9" Vinyl Floor Tile/Mastic - Room 1, Center	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 571
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 9/29/2010
Sample Date: 9/22/2010

Page 2 of 2

On 9/27/2010, twelve (12) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein.

STATEMENT OF LABORATORY ACCREDITATION

The samples were analyzed in general accordance with the procedures outlined in the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116 or the U.S. Environmental Protection Agency method, under AHERA, for the analysis of asbestos in building materials by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Specific questions concerning bulk sample results shall be directed to the Laboratory Director.

Analyst: Kathy Schosek

Laboratory Director: John R. Cates, P.G.

Approved Signatory:



NVLAP LAB CODE 200569-0

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 571**Project # **1037503**Sample #: **CL171044**Field ID #: **A01**Client Sample Description: **Wall Plaster - Room 1, North Side at Door****Layer 1 Plaster**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Beige	Blocky	Yes	ND	ND	100

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	50		Non-fibrous						
Perlite	50		Glass Foam				0		

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171044**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 571**Project # **1037503**Sample #: **CL171045**Field ID #: **A02**Client Sample Description: **Wall Plaster - Room 1, Northwest Corner****Layer 1 Plaster**

Stereoscopic Examination

ColorTextureHomogeneous?% Fibrous% Asbestos% of Sample**Beige****Blocky****Yes****ND****ND****100**

PLM Examination:

Components%+/-MorphologyColor/
PleochroismParallel
Ref. IndexPerpendicular
Ref. IndexBirefExtinction
AngleSign of
Elongation**Aggregate/Binders/Paint****50****Non-fibrous****Perlite****50****Glass Foam****0**Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 571**Project # **1037503**Sample #: **CL171046**Field ID #: **A03**Client Sample Description: **Wall Plaster - Room 3, North Side at Door****Layer 1 Plaster**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Beige/White	Blocky	Yes	ND	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	50		Non-fibrous						
Perlite	50		Glass Foam				0		
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> None Detected					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171046**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

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Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 571**Project #: **1037503**Sample #: **CL171047**Field ID #: **B01**Client Sample Description: **Roof Debris - Room 2, North Side****Layer 1 Roofing Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Layer 2 Roofing Membrane

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Fibrous	Yes	20	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	80		Non-fibrous						
Cellulose Fibers	15		ribbons						
Synthetic Fibers	5		Monofilaments					high	

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171047**

**Cates Laboratories**613 S. Bois D'Arc
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EPA Method 600/R-93/116

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TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 571**Project # **1037503**Sample #: **CL171048**Field ID #: **C01**Client Sample Description: **CMU Surfacing - North Exterior at Entry to Room 1****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	100

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	100		Non-fibrous						

Prep/treatment: **solvent dissolution** Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171048**

**Cates Laboratories**613 S. Bois D'Arc
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EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 571**Project # **1037503**Sample #: **CL171049**Field ID #: **C02**Client Sample Description: **Exterior CMU, Mortar and Surfacing - Northeast Corner of Building****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	100		Non-fibrous						
<u>Prep/treatment:</u>	solvent dissolution			<u>Asbestos Content:</u>	None Detected				

Layer 2 CMU Block/Mortar

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Grey	Blocky/Hard	Yes	ND	ND	90

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	100		Non-fibrous						
<u>Prep/treatment:</u>	mechanical separation			<u>Asbestos Content:</u>	None Detected				

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171049**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

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Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 571**Project # **1037503**Sample #: **CL171050**Field ID #: **D01**Client Sample Description: **Acoustic Ceiling Tile Debris - Room 1, West Side****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>			
			White	Fibrous	Yes	90	5	100			
PLM Examination:											
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>		
Amosite	5	4	straight	None	1.701	1.678	mod	Parallel	+		
Binders / Paint	10		Non-fibrous								
Mineral Wool Fibers	85		Rods				0				
Prep/treatment: mechanical separation				Asbestos Content: 5% Amosite							

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171050**

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EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

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Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 571**Project # **1037503**Sample #: **CL171051**Field ID #: **E01**Client Sample Description: **Plaster - North Interior Wall****Layer 1 Plaster**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Beige/White	Blocky	Yes	ND	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	50		Non-fibrous						
Perlite	50		Glass Foam				0		
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> None Detected					



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613 S. Bois D'Arc
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Bulk Asbestos Analysis Sheet

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 571**

Project # **1037503**

Sample #: **CL171052**

Field ID #: **F01**

Client Sample Description: **Window Glazing - North Side at Northeast Corner Window, Room 3**

Layer 1 Window Glazing

Stereoscopic Examination

Color

Texture

Homogeneous?

% Fibrous

% Asbestos

% of Sample

White

Blocky

Yes

ND

ND

100

PLM Examination:

Components

%

+/-

Morphology

Color/

Pleochroism

Parallel

Ref. Index

Perpendicular

Ref. Index

Biref

Extinction

Angle

Sign of

Elongation

Aggregate/Binders

100

Non-fibrous

Prep/treatment:

mechanical separation

Asbestos Content:

None Detected

Comments:

Analyst:

Kathy Schosek

Date Analyzed:

9/29/2010

Lab Job #: **PLM-03772**

Sample #: **CL171052**

**Cates Laboratories**613 S. Bois D'Arc
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EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 571**Project #: **1037503**Sample #: **CL171053**Field ID #: **G01**Client Sample Description: **Green 9" X 9" Vinyl Floor Tile/Mastic - Northeast Portion of Room 4****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Green	Hard	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171053**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 571**Project #: **1037503**Sample #: **CL171054**Field ID #: **G02**Client Sample Description: **Green 9" X 9" Vinyl Floor Tile/Mastic - Room 3, Center****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Green	Hard	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171054**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 571**Project #: **1037503**Sample #: **CL171055**Field ID #: **G03**Client Sample Description: **Green 9" X 9" Vinyl Floor Tile/Mastic - Room 1, Center****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Green	Hard	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171055**

BUILDING 575

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 575
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/22/2010

Page 1 of 3

On 9/27/2010, sixteen (16) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL171028	A01	Green 9" X 9' Vinyl Floor Tile/Mastic - North Entry Hall, Center	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL171029	A02	Green 9" X 9' Vinyl Floor Tile/Mastic - Southeast Building, Entry	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL171030	A03	Green 9" X 9' Vinyl Floor Tile/Mastic - Southwest Building, Entry	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL171031	B01	Drywall/Paint/Joint Compound - Room 1, West Wall	5% Chrysotile - Paint Texture None Detected - Joint Tape 5% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material (by PLM) 3.25% Chrysotile - Joint Compound (by Point Count)
CL171032	B02	Drywall/Paint/Joint Compound - North Entry Hall, South Side	5% Chrysotile - Paint Texture None Detected - Joint Tape 5% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material
CL171033	B03	Drywall/Paint/Joint Compound - Room 6, Northeast Corner	5% Chrysotile - Paint Texture None Detected - Joint Tape 5% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material
CL171034	C01	2' X 4' Acoustic Ceiling Tile (pin/texture) - Room 8, East Side	None Detected
CL171035	C02	2' X 4' Acoustic Ceiling Tile (pin/texture) - Room 8, Southeast Corner	None Detected
CL171036	C03	2' X 4' Acoustic Ceiling Tile (pin/texture) - Room 8, West Side	None Detected
CL171037	D01	2' X 4' Acoustic Ceiling Tile (fissure/pin) - North Entry Hall, Southeast Corner	5% Amosite (by PLM) 6.00% Amosite (by Point Count)

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.

Lab Job No.: PLM-03772

Project: Fort Wolters, TX (USACE) - Building 575

Report Date: 10/5/2010

Project No: 1037503

Sample Date: 9/22/2010

Identification: Asbestos, Bulk Sample Analysis

Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Page 2 of 3

On 9/27/2010, sixteen (16) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL171038	D02	2' X 4' Acoustic Ceiling Tile (fissure/pin) - Room 10, Southeast Corner	5% Amosite
CL171039	D03	2' X 4' Acoustic Ceiling Tile (fissure/pin) - Room 6, Southwest Corner	5% Amosite
CL171040	E01	Cove Base Mastic - North Entry Hall, Southwest Corner	None Detected
CL171041	E02	Cove Base Mastic - Room 1, North Side	None Detected
CL171042	E03	Cove Base Mastic - Room 6, East Side	None Detected
CL171043	F01	Tile/Mastic Debris - Main Building Entry	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 575
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/22/2010

Page 3 of 3

On 9/27/2010, sixteen (16) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein.

STATEMENT OF LABORATORY ACCREDITATION

The samples were analyzed in general accordance with the procedures outlined in the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116 or the U.S. Environmental Protection Agency method, under AHERA, for the analysis of asbestos in building materials by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Specific questions concerning bulk sample results shall be directed to the Laboratory Director.

Analyst: Kathy Schosek, John R. Cates

Laboratory Director: John R. Cates, P.G.

Approved Signatory:



NVLAP LAB CODE 200569-0

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171028**Field ID #: **A01**Client Sample Description: **Green 9" X 9' Vinyl Floor Tile/Mastic - North Entry Hall, Center****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Green	Hard	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171028**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171029**Field ID #: **A02**Client Sample Description: **Green 9" X 9' Vinyl Floor Tile/Mastic - Southeast Building, Entry****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Green	Hard	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171029**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171030**Field ID #: **A03**Client Sample Description: **Green 9" X 9' Vinyl Floor Tile/Mastic - Southwest Building, Entry****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Green	Hard	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> heat / melt				<u>Asbestos Content:</u> 5% Chrysotile					

Layer 2 Black Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u> heat / melt				<u>Asbestos Content:</u> 5% Chrysotile					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171030**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 2

Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171031**Field ID #: **B01**Client Sample Description: **Drywall/Paint/Joint Compound - Room 1, West Wall****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	25

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **solvent dissolution** Asbestos Content: **5% Chrysotile**

Layer 2 Joint Tape

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Layer 3 Joint Compound

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	25

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **mechanical separation** Asbestos Content: **5% Chrysotile (by PLM)**
3.25% Chrysotile (by Point Count)

Layer 4 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek, John R. Cates**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171031**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 2 of 2

Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171031**Field ID #: **B01**Client Sample Description: **Drywall/Paint/Joint Compound - Room 1, West Wall****Layer 5 Wallboard Material**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	30

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons						
Gypsum Binders	95		Non-fibrous						

high

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek, John R. Cates**Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171031**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171032**Field ID #: **B02**Client Sample Description: **Drywall/Paint/Joint Compound - North Entry Hall, South Side****Layer 1 Paint Texture**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders/Paint	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: solvent dissolution Asbestos Content: 5% Chrysotile

Layer 2 Joint Tape

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 3 Joint Compound

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: mechanical separation Asbestos Content: 5% Chrysotile

Layer 4 Paper

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 5 Wallboard Material

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	1	ND	30

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: mechanical separation Asbestos Content: None Detected

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171032**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171033**Field ID #: **B03**Client Sample Description: **Drywall/Paint/Joint Compound - Room 6, Northeast Corner****Layer 1 Paint Texture**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders/Paint	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: solvent dissolution Asbestos Content: 5% Chrysotile

Layer 2 Joint Tape

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 3 Joint Compound

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: mechanical separation Asbestos Content: 5% Chrysotile

Layer 4 Paper

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 5 Wallboard Material

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	1	ND	30

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: mechanical separation Asbestos Content: None Detected

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171033**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171034**Field ID #: **C01**Client Sample Description: **2' X 4' Acoustic Ceiling Tile (pin/texture) - Room 8, East Side****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Beige w/wht pt	Fibrous	Yes	60	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Cellulose Fibers	30		ribbons				high		
Mineral Wool Fibers	30		Rods				0		
Perlite	30		Glass Foam				0		
Prep/treatment: mechanical separation				Asbestos Content: None Detected					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171034**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171035**Field ID #: **C02**Client Sample Description: **2' X 4' Acoustic Ceiling Tile (pin/texture) - Room 8, Southeast Corner****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Beige w/wht pt	Fibrous	Yes	60	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Cellulose Fibers	30		ribbons				high		
Mineral Wool Fibers	30		Rods				0		
Perlite	30		Glass Foam				0		
Prep/treatment: mechanical separation				Asbestos Content: None Detected					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171035**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171036**Field ID #: **C03**Client Sample Description: **2' X 4' Acoustic Ceiling Tile (pin/texture) - Room 8, West Side****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Beige w/wht pt	Fibrous	Yes	60	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Cellulose Fibers	30		ribbons				high		
Mineral Wool Fibers	30		Rods				0		
Perlite	30		Glass Foam				0		
Prep/treatment: mechanical separation				Asbestos Content: None Detected					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171036**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171037**Field ID #: **D01**Client Sample Description: **2' X 4' Acoustic Ceiling Tile (fissure/pin) - North Entry Hall, Southeast Corner****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			White	Fibrous	Yes	90	5	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Amosite	5	4	straight	None	1.701	1.678	mod	Parallel	+
Binders / Paint	10		Non-fibrous						
Mineral Wool Fibers	85		Rods				0		
<u>Prep/treatment:</u> mechanical separation				<u>Asbestos Content:</u> 5% Amosite (by PLM) 6% Amosite (by Point Count)					

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171037**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171038**Field ID #: **D02**Client Sample Description: **2' X 4' Acoustic Ceiling Tile (fissure/pin) - Room 10, Southeast Corner****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>			
			White	Fibrous	Yes	90	5	100			
PLM Examination:											
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>		
Amosite	5	4	straight	None	1.701	1.678	mod	Parallel	+		
Binders / Paint	10		Non-fibrous								
Mineral Wool Fibers	85		Rods				0				
Prep/treatment: mechanical separation				Asbestos Content: 5% Amosite							

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171038**



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Forney, Texas 75126 (972) 564-4723

Bulk Asbestos Analysis Sheet

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 575**

Project # **1037503**

Sample #: **CL171039**

Field ID #: **D03**

Client Sample Description: **2' X 4' Acoustic Ceiling Tile (fissure/pin) - Room 6, Southwest Corner**

Layer 1 Ceiling Tile

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>			
			White	Fibrous	Yes	90	5	100			
PLM Examination:											
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>		
Amosite	5	4	straight	None	1.701	1.678	mod	Parallel	+		
Binders / Paint	10		Non-fibrous								
Mineral Wool Fibers	85		Rods				0				
Prep/treatment: mechanical separation				Asbestos Content: 5% Amosite							

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**

Lab Job #: **PLM-03772**

Sample #: **CL171039**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 575**Project # **1037503**Sample #: **CL171040**Field ID #: **E01**Client Sample Description: **Cove Base Mastic - North Entry Hall, Southwest Corner****Layer 1 Cove Base**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Rubbery	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	100		Non-fibrous						
<u>Prep/treatment:</u>	heat / melt		<u>Asbestos Content:</u> None Detected						

Layer 2 Brown Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Hard	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Glue Binders	100		Non-fibrous						
<u>Prep/treatment:</u>	heat / melt		<u>Asbestos Content:</u> None Detected						

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171040**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171041**Field ID #: **E02**Client Sample Description: **Cove Base Mastic - Room 1, North Side****Layer 1 Cove Base**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Rubbery	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	100		Non-fibrous						
<u>Prep/treatment:</u>	heat / melt		<u>Asbestos Content:</u> None Detected						

Layer 2 Brown Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Hard	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Glue Binders	100		Non-fibrous						
<u>Prep/treatment:</u>	heat / melt		<u>Asbestos Content:</u> None Detected						

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171041**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171042**Field ID #: **E03**Client Sample Description: **Cove Base Mastic - Room 6, East Side****Layer 1 Cove Base**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Rubbery	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	100		Non-fibrous						
<u>Prep/treatment:</u>	heat / melt			<u>Asbestos Content:</u>	None Detected				

Layer 2 Brown Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Hard	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	100		Non-fibrous						
Talc Fibers	<1		Straight		1.59	1.54	high		+
<u>Prep/treatment:</u>	heat / melt			<u>Asbestos Content:</u>	None Detected				

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171042**

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 575**Project #: **1037503**Sample #: **CL171043**Field ID #: **F01**Client Sample Description: **Tile/Mastic Debris - Main Building Entry****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Lt. Green	Hard	Yes	ND	ND	95

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Tar Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171043**

BUILDING 576

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 576
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/22/2010

Page 1 of 3

On 9/27/2010, twenty-two (22) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL171006	A01	Green 9" X 9" Vinyl Floor Tile/Mastic - North Entry Hall, Northwest Corner	10% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL171007	A02	Green 9" X 9" Vinyl Floor Tile/Mastic - Room 1, South Side at Door	10% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL171008	A03	Green 9" X 9" Vinyl Floor Tile/Mastic - Room 10, Northwest Corner	10% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL171009	B01	Drywall/Paint/Joint Compound - North Entry Hall, Southeast Corner	5% Chrysotile - Paint Texture None Detected - Joint Tape 5% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material
CL171010	B02	Drywall/Paint/Joint Compound - Room 1, North Side	3% Chrysotile - Paint Texture None Detected - Joint Tape 3% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material (by PLM) 2.50% Chrysotile - Joint Compound (by Point Count)
CL171011	B03	Drywall/Paint/Joint Compound - Room 10, West Side	3% Chrysotile - Paint Texture None Detected - Joint Tape 3% Chrysotile - Joint Compound None Detected - Paper None Detected - Wallboard Material
CL171012	C01	2' X 4' Acoustic Ceiling Tile - Room 8, Northeast Corner	None Detected
CL171013	C02	2' X 4' Acoustic Ceiling Tile - Room 9, Southeast Corner	None Detected
CL171014	C03	2' X 4' Acoustic Ceiling Tile - Room 1, South Side, East of Entry	None Detected
CL171015	D01	Brown Cove Base Mastic/Drywall - North Entry, South Wall at Center	None Detected - Brown Mastic None Detected - Paper None Detected - Wallboard Material

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 576
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/22/2010

Page 2 of 3

On 9/27/2010, twenty-two (22) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL171016	D02	Brown Cove Base Mastic/Drywall - Room 1, North Side	None Detected - Brown Mastic 3% Chrysotile - Paint Texture None Detected - Paper None Detected - Wallboard Material
CL171017	D03	Brown Cove Base Mastic/Drywall - Room 10, West Side	None Detected - Brown Mastic None Detected - Paper None Detected - Wallboard Material
CL171018	E01	Duct Insulation - Boiler Room, Southeast Corner	None Detected - White Mastic/Wrap None Detected - Duct Tape None Detected - Wrap None Detected - Insulation
CL171019	F01	Insulation Wrap (elbow) - Boiler Room, East Side	None Detected - White Mastic/Wrap None Detected - Insulation
CL171020	G01	TSI (run) - Boiler Room, East Side	None Detected - White Mastic/Wrap None Detected - Wrap None Detected - Insulation
CL171021	H01	Vibration Gasket - Boiler Room, Southeast Corner	None Detected
CL171022	I01	Wall Mastic - East Restroom at Window	5% Chrysotile
CL171023	I02	Wall Mastic - East Restroom, Southeast Corner	5% Chrysotile
CL171024	I03	Wall Mastic - West Restroom, South Wall	5% Chrysotile
CL171025	J01	White HVAC Mastic - Room 1, Center	None Detected - White Mastic None Detected - Wrap None Detected - Insulation
CL171026	K01	HVAC Ducting Wrap/Mastic - Southeast HVAC Run	None Detected - White Mastic None Detected - Wrap None Detected - Insulation
CL171027	L01	Tan Ceiling Tile - Room 9, near Entry to Room 1	None Detected

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY



Cates Laboratories

613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

NVLAP Lab No. 200569-0
TDH License No. 30-0287

Client: Dougherty Sprague Environmental, Inc.
Project: Fort Wolters, TX (USACE) - Building 576
Project No: 1037503
Identification: Asbestos, Bulk Sample Analysis
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS)
EPA Method 600/R-93/116

Lab Job No.: PLM-03772
Report Date: 10/5/2010
Sample Date: 9/22/2010

Page 3 of 3

On 9/27/2010, twenty-two (22) bulk samples were submitted by Mr. David Horn of Dougherty Sprague Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein.

STATEMENT OF LABORATORY ACCREDITATION

The samples were analyzed in general accordance with the procedures outlined in the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116 or the U.S. Environmental Protection Agency method, under AHERA, for the analysis of asbestos in building materials by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Specific questions concerning bulk sample results shall be directed to the Laboratory Director.

Analyst: John R. Cates

Laboratory Director: John R. Cates, P.G.

Approved Signatory:



NVLAP LAB CODE 200569-0

**Cates Laboratories**613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171006**Field ID #: **A01**Client Sample Description: **Green 9" X 9" Vinyl Floor Tile/Mastic - North Entry Hall, Northwest Corner****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Green	Hard	Yes	ND	ND	99

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	90		Non-fibrous						
Chrysotile	10	5	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt**Asbestos Content: **10% Chrysotile****Layer 2 Black Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	1

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Tar Binders	95		Non-fibrous						

Prep/treatment: **heat / melt**Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **John R. Cates**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171006**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171007**Field ID #: **A02**Client Sample Description: **Green 9" X 9" Vinyl Floor Tile/Mastic - Room 1, South Side at Door****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Green	Hard	Yes	ND	ND	99

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	90		Non-fibrous						
Chrysotile	10	5	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **10% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	1

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Tar Binders	95		Non-fibrous						

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **John R. Cates**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171007**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171008**Field ID #: **A03**Client Sample Description: **Green 9" X 9" Vinyl Floor Tile/Mastic - Room 10, Northwest Corner****Layer 1 Floor Tile**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Green	Hard	Yes	ND	ND	99

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Vinyl Binders	90		Non-fibrous						
Chrysotile	10	5	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **heat / melt** Asbestos Content: **10% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Black	Asphaltic	Yes	ND	ND	1

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Tar Binders	95		Non-fibrous						

Prep/treatment: **heat / melt** Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **John R. Cates**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171008**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171009**Field ID #: **B01**Client Sample Description: **Drywall/Paint/Joint Compound - North Entry Hall, Southeast Corner****Layer 1 Paint Texture**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders/Paint	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: solvent dissolution Asbestos Content: 5% Chrysotile

Layer 2 Joint Tape

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 3 Joint Compound

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: mechanical separation Asbestos Content: 5% Chrysotile

Layer 4 Paper

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 5 Wallboard Material

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	1	ND	30

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: mechanical separation Asbestos Content: None Detected

Comments:

Analyst: **John R. Cates**Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171009**

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Client: **Dougherty Sprague Environmental, Inc.**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171010**Field ID #: **B02**Client Sample Description: **Drywall/Paint/Joint Compound - Room 1, North Side****Layer 1 Paint Texture**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Yellow	Blocky	Yes	ND	ND	25

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **solvent dissolution** Asbestos Content: **3% Chrysotile**

Layer 2 Joint Tape

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Layer 3 Joint Compound

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	25

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: **mechanical separation** Asbestos Content: **3% Chrysotile (by PLM)**
2.50% Chrysotile (by Point Count)

Layer 4 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation** Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171010**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171010**Field ID #: **B02**Client Sample Description: **Drywall/Paint/Joint Compound - Room 1, North Side****Layer 5 Wallboard Material**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	30

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons						
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171010**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171011**Field ID #: **B03**Client Sample Description: **Drywall/Paint/Joint Compound - Room 10, West Side****Layer 1 Paint Texture**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Yellow	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: solvent dissolution Asbestos Content: 3% Chrysotile

Layer 2 Joint Tape

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Cream	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 3 Joint Compound

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	ND	ND	25

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+

Prep/treatment: mechanical separation Asbestos Content: 3% Chrysotile

Layer 4 Paper

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: mechanical separation Asbestos Content: None Detected

Layer 5 Wallboard Material

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	1	ND	30

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: mechanical separation Asbestos Content: None Detected

Comments:

Analyst: **John R. Cates**
Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171011**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project # **1037503**Sample #: **CL171012**Field ID #: **C01**Client Sample Description: **2' X 4' Acoustic Ceiling Tile - Room 8, Northeast Corner****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Tan/White	Fibrous	Yes	85	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Cellulose Fibers	25		ribbons				high		
Mineral Wool Fibers	60		Rods				0		
Perlite	5		Glass Foam				0		
Prep/treatment: mechanical separation				Asbestos Content: None Detected					

Comments:

Analyst: **John R. Cates**Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171012**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171013**Field ID #: **C02**Client Sample Description: **2' X 4' Acoustic Ceiling Tile - Room 9, Southeast Corner****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Tan/White	Fibrous	Yes	85	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Cellulose Fibers	25		ribbons				high		
Mineral Wool Fibers	60		Rods				0		
Perlite	5		Glass Foam				0		
Prep/treatment: mechanical separation				Asbestos Content: None Detected					

Comments:

Analyst: **John R. Cates**Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171013**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171014**Field ID #: **C03**Client Sample Description: **2' X 4' Acoustic Ceiling Tile - Room 1, South Side, East of Entry****Layer 1 Ceiling Tile**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Tan/White	Fibrous	Yes	85	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Cellulose Fibers	25		ribbons				high		
Mineral Wool Fibers	60		Rods				0		
Perlite	5		Glass Foam				0		
Prep/treatment: mechanical separation				Asbestos Content: None Detected					

Comments:

Analyst: **John R. Cates**Date Analyzed: **9/28/2010**Lab Job #: **PLM-03772**Sample #: **CL171014**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171015**Field ID #: **D01**Client Sample Description: **Brown Cove Base Mastic/Drywall - North Entry, South Wall at Center****Layer 1 Brown Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Rubbery	Yes	ND	ND	50

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Glue Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**Asbestos Content: **None Detected****Layer 2 Paper**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	20

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 3 Wallboard Material**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	30

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171015**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171016**Field ID #: **D02**Client Sample Description: **Brown Cove Base Mastic/Drywall - Room 1, North Side****Layer 1 Brown Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Rubbery	Yes	ND	ND	50

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Glue Binders	100		Non-fibrous						
<u>Prep/treatment:</u>	heat / melt			<u>Asbestos Content:</u> None Detected					

Layer 2 Paint Texture

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	ND	ND	15

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders/Paint	97		Non-fibrous						
Chrysotile	3	2	Silky / Wavy	None	1.556	1.549	low	Parallel	+
<u>Prep/treatment:</u>	solvent dissolution			<u>Asbestos Content:</u> 3% Chrysotile					

Layer 3 Paper

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	20

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		
<u>Prep/treatment:</u>	mechanical separation			<u>Asbestos Content:</u> None Detected					

Layer 4 Wallboard Material

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	15

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						
<u>Prep/treatment:</u>	mechanical separation			<u>Asbestos Content:</u> None Detected					

Comments:

Analyst: **John R. Cates**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171016**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171017**Field ID #: **D03**Client Sample Description: **Brown Cove Base Mastic/Drywall - Room 10, West Side****Layer 1 Brown Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Brown	Rubbery	Yes	ND	ND	50

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Glue Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**Asbestos Content: **None Detected****Layer 2 Paper**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan	Fibrous	Yes	100	ND	20

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 3 Wallboard Material**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Blocky	Yes	1	ND	30

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate	4		Non-fibrous						
Cellulose Fibers	1		ribbons				high		
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171017**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171018**Field ID #: **E01**Client Sample Description: **Duct Insulation - Boiler Room, Southeast Corner****Layer 1 White Mastic/Wrap**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Fibrous	Yes	35	ND	25

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	65		Non-fibrous						
Glass Fibers	35		straight	none			none		

Prep/treatment: **heat / melt**Asbestos Content: **None Detected****Layer 2 Duct Tape**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Grey	Rubbery/Fibrous	No	35	ND	15

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders	15		Non-fibrous						
Cellulose Fibers	10		ribbons				high		
Synthetic Fibers	25		Monofilaments						
Vinyl	50		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 3 Wrap**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan / Silver	Fibrous	No	75	ND	10

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders	10		Non-fibrous						
Cellulose Fibers	70		ribbons				high		
Glass Fibers	5		straight	none			none		
Metal Foil	15			Opaque					

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 4 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Yellow-Tan	Fibrous	Yes	95	ND	50

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171018**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171019**Field ID #: **F01**Client Sample Description: **Insulation Wrap (elbow) - Boiler Room, East Side****Layer 1 White Mastic/Wrap**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Fibrous	Yes	25	ND	20

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	75		Non-fibrous						
Glass Fibers	25		straight	none			none		

Prep/treatment: **heat / melt**Asbestos Content: **None Detected****Layer 2 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Red	Fibrous	Yes	100	ND	80

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171019**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171020**Field ID #: **G01**Client Sample Description: **TSI (run) - Boiler Room, East Side****Layer 1 White Mastic/Wrap**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White / Silver	Fibrous	No	65	ND	20

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders	25		Non-fibrous						
Cellulose Fibers	60		ribbons				high		
Glass Fibers	5		straight	none			none		
Metal Foil	10			Opaque					

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 2 Wrap**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan / Silver	Fibrous	No	55	ND	20

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Cellulose Fibers	55		ribbons				high		
Metal Foil	15			Opaque					
Tar Binders	30		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 3 Insulation**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Yellow-Tan	Fibrous	Yes	100	ND	60

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171020**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project # **1037503**Sample #: **CL171021**Field ID #: **H01**Client Sample Description: **Vibration Gasket - Boiler Room, Southeast Corner****Layer 1 Duct Isolation Boot**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Tan	Fibrous/Woven	Yes	60	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders	40		Non-fibrous						
Glass Fibers	60		straight	none			none		
<u>Prep/treatment:</u> mechanical separation			<u>Asbestos Content:</u> None Detected						

Comments:

Analyst: **John R. Cates**Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171021**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project # **1037503**Sample #: **CL171022**Field ID #: **I01**Client Sample Description: **Wall Mastic - East Restroom at Window****Layer 1 Mastic**

Stereoscopic Examination

			Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample	
			Tan-Green	Hard	Yes	ND	ND	100	
PLM Examination:									
Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Prep/treatment:	heat / melt		Asbestos Content: 5% Chrysotile						

Comments:

Analyst: **John R. Cates**Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171022**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project # **1037503**Sample #: **CL171023**Field ID #: **I02**Client Sample Description: **Wall Mastic - East Restroom, Southeast Corner****Layer 1 Mastic**

Stereoscopic Examination

			Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample	
			Tan-Green	Hard	Yes	ND	ND	100	
PLM Examination:									
Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Prep/treatment:	heat / melt		Asbestos Content: 5% Chrysotile						

Comments:

Analyst: **John R. Cates**Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171023**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project # **1037503**Sample #: **CL171024**Field ID #: **I03**Client Sample Description: **Wall Mastic - West Restroom, South Wall****Layer 1 Mastic**

Stereoscopic Examination

			Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample	
			Tan-Green	Hard	Yes	ND	ND	100	
PLM Examination:									
Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	95		Non-fibrous						
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Prep/treatment:	heat / melt		Asbestos Content: 5% Chrysotile						

Comments:

Analyst: **John R. Cates**Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171024**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project #: **1037503**Sample #: **CL171025**Field ID #: **J01**Client Sample Description: **White HVAC Mastic - Room 1, Center****Layer 1 White Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Hard	Yes	ND	ND	20

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	100		Non-fibrous						
<u>Prep/treatment:</u>	heat / melt			<u>Asbestos Content:</u> None Detected					

Layer 2 Wrap

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan / Silver	Fibrous	No	75	ND	20

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders	10		Non-fibrous						
Cellulose Fibers	70		ribbons				high		
Glass Fibers	5		straight	none			none		
Metal Foil	15			Opaque					
<u>Prep/treatment:</u>	mechanical separation			<u>Asbestos Content:</u> None Detected					

Layer 3 Insulation

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Pink	Fibrous	Yes	100	ND	60

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						
<u>Prep/treatment:</u>	mechanical separation			<u>Asbestos Content:</u> None Detected					

Comments:

Analyst: **John R. Cates**Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171025**

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Project: **Fort Wolters, TX (USACE) - Building 576**Project # **1037503**Sample #: **CL171026**Field ID #: **K01**Client Sample Description: **HVAC Ducting Wrap/Mastic - Southeast HVAC Run****Layer 1 White Mastic**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
White	Hard	Yes	ND	ND	20

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Aggregate/Binders	100		Non-fibrous						
<u>Prep/treatment:</u>	heat / melt			<u>Asbestos Content:</u> None Detected					

Layer 2 Wrap

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Tan / Silver	Fibrous	No	75	ND	20

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders	10		Non-fibrous						
Cellulose Fibers	70		ribbons				high		
Glass Fibers	5		straight	none			none		
Metal Foil	15			Opaque					
<u>Prep/treatment:</u>	mechanical separation			<u>Asbestos Content:</u> None Detected					

Layer 3 Insulation

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
Pink	Fibrous	Yes	100	ND	60

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Mineral Wool Fibers	95		Rods				0		
Resin Binders	5		Non-fibrous						
<u>Prep/treatment:</u>	mechanical separation			<u>Asbestos Content:</u> None Detected					

Comments:

Analyst: **John R. Cates**
Date Analyzed: **9/29/2010**Lab Job #: **PLM-03772**Sample #: **CL171026**



Cates Laboratories
613 S. Bois D'Arc
Forney, Texas 75126 (972) 564-4723

Bulk Asbestos Analysis Sheet

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0

TDH License No. 30-0287

Client: **Dougherty Sprague Environmental, Inc.**

Page 1 of 1

Project: **Fort Wolters, TX (USACE) - Building 576**

Project # **1037503**

Sample #: **CL171027**

Field ID #: **L01**

Client Sample Description: **Tan Ceiling Tile - Room 9, near Entry to Room 1**

Layer 1 Ceiling Tile

Stereoscopic Examination

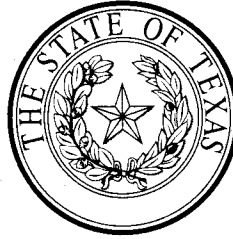
			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
			Tan/White	Fibrous	Yes	90	ND	100	
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
Binders / Paint	10		Non-fibrous						
Cellulose Fibers	30		ribbons				high		
Mineral Wool Fibers	60		Rods				0		
Prep/treatment: mechanical separation				Asbestos Content: None Detected					

Comments:

Analyst: **John R. Cates**
Date Analyzed: **9/29/2010**

Lab Job #: **PLM-03772**

Sample #: **CL171027**



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

CATES LABORATORIES INC

is certified to perform as a

**Asbestos Laboratory
PLM**

in the State of Texas within the purview of Texas Occupations Code, chapter 1954, so long as this license is not suspended or revoked and is renewed according to the rules adopted by the Texas Board of Health.

A handwritten signature in cursive script, reading "David Lakey MD".

DAVID LAKEY, M.D.
COMMISSIONER OF HEALTH

License Number: 300287

Control Number: 95559

Expiration Date: 4/7/2011

(Void After Expiration Date)

VOID IF ALTERED

NON-TRANSFERABLE

APPENDIX F

Photo Log

PHOTO LOG

PHOTO 1 ►

Exterior view of Building 540 showing Transite identified as ACBM.

Taken by: David Horn
Direction: Southwest
Date: 9/21/2010



PHOTO 2 ►

Paint texture identified as ACBM at office interior of Building 540.

Taken by: David Horn
Direction: Southwest
Date: 9/21/2010



PHOTO 3 ►

Transite identified as ACBM in interior of Building 540.

Taken by: David Horn
Direction: Northwest
Date: 9/21/2010



PHOTO LOG

PHOTO 4 ►

Transite debris identified as ACBM in interior of Building 540.

Taken by: David Horn
Direction: Northwest
Date: 9/21/2010



PHOTO 5 ►

TSI debris observed in Building 540; sampling at other locations indicated this debris included ACBMs.

Taken by: David Horn
Direction: North
Date: 9/21/2010



PHOTO 6 ►

Gray window glazing identified as ACBM inside Building 540.

Taken by: David Horn
Direction: South
Date: 9/21/2010



PHOTO LOG

PHOTO 7 ►

White window glazing compound identified as ACBM on exterior of Building 540.

Taken by: David Horn
Direction: North
Date: 9/21/2010



PHOTO 8 ►

Ceiling and wall systems identified as ACBM at Building 540 parts room interior.

Taken by: David Horn
Direction: Northwest
Date: 9/21/2010



PHOTO 9 ►

White window glazing and caulking identified as ACBM on western exterior of Building 540.

Taken by: David Horn
Direction: Southeast
Date: 9/21/2010

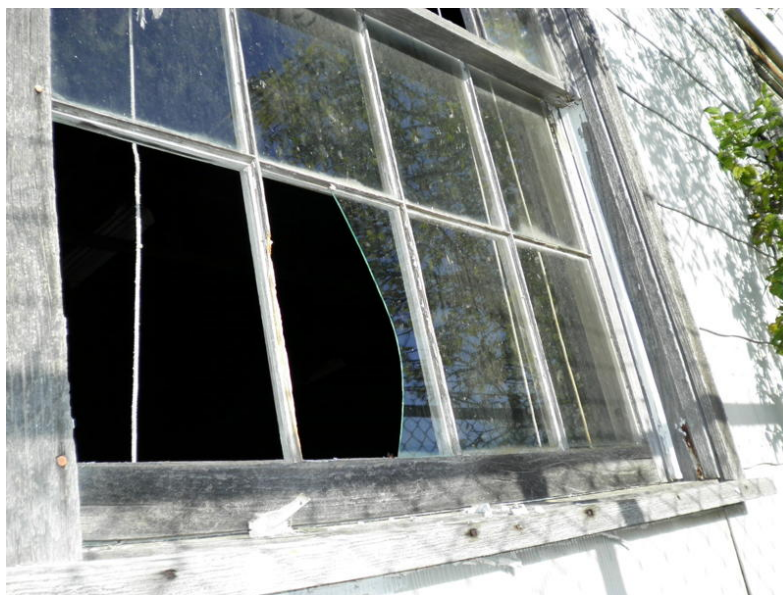


PHOTO LOG

PHOTO 10 ►

Exterior view of Building 541.

Taken by: David Horn
Direction: Northeast
Date: 9/21/2010



PHOTO 11 ►

Transite identified as ACBM on interior of Building 541.

Taken by: David Horn
Direction: Northeast
Date: 9/21/2010



PHOTO 12 ►

Window glazing identified as ACBM in interior of Building 541.

Taken by: David Horn
Direction: Northeast
Date: 9/21/2010



PHOTO LOG

PHOTO 13 ►

Ceiling system containing joint compound identified as ACBM in north center room (parts room) of Building 541.

Taken by: David Horn
Direction: Northeast
Date: 9/21/2010



PHOTO 14 ►

Exterior Transite and window glazing identified as ACBM at Building 541.

Taken by: David Horn
Direction: Northeast
Date: 9/21/2010



PHOTO 15 ►

Exterior Transite (gray soffit debris and white wall varieties), window caulking, and window glazing identified as ACBMs at Building 541.

Taken by: David Horn
Direction: Northeast
Date: 9/21/2010



PHOTO LOG

PHOTO 16 ►

Exterior view of Building 578.

Taken by: David Horn
Direction: South-southwest
Date: 9/21/2010



PHOTO 17 ►

Paint texture and joint compound in wall system identified as ACM in Building 578.

Taken by: David Horn
Direction: Southeast
Date: 9/21/2010



PHOTO 18 ►

Joint compound in wall system identified as ACM in Building 578.

Taken by: David Horn
Direction: East
Date: 9/21/2010

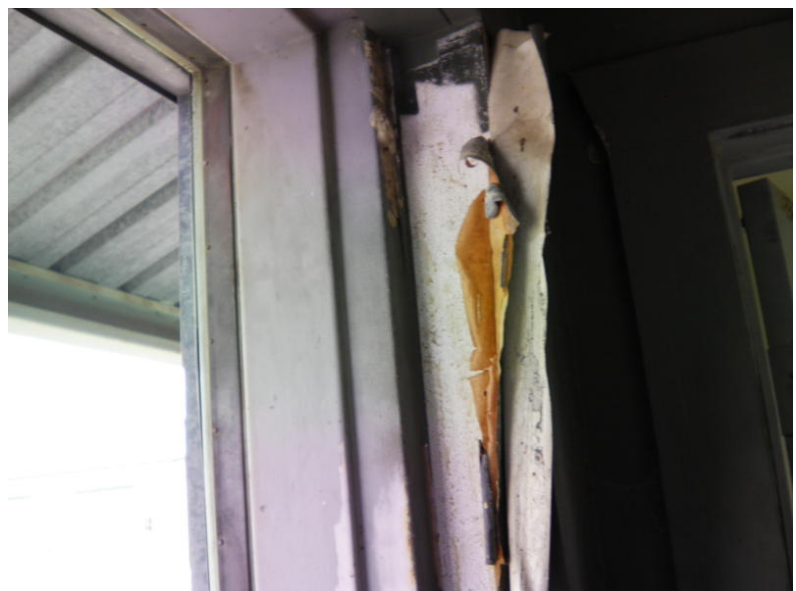


PHOTO LOG

PHOTO 19 ►

Building 551, Room 1. VCT/mastic on floors and joint compound/texture on walls were identified as ACBM's (also in Building 552).

Taken by: Deborah Farris
Direction: South
Date: 9/21/2010



PHOTO 20 ►

Building 551. Transite shingles on building exterior walls were identified as ACBM's (also in Building 552).

Taken by: David Horn
Direction: Southeast
Date: 9/22/2010



PHOTO 21 ►

Building 551. VCT and mastic on floors were identified as ACBM's (also in Building 552).

Taken by: David Horn
Direction: West
Date: 9/22/2010



PHOTO LOG

PHOTO 22 ►

Building 551. HVAC vibration gasket on overhead air handling units were assumed to be ACBM's (also in Building 552).

Taken by: David Horn
Date: 9/22/2010



PHOTO 23 ►

Building 551. Window glazing compound on exterior windows was identified as an ACBM (also in Building 552).

Taken by: David Horn
Date: 9/22/2010

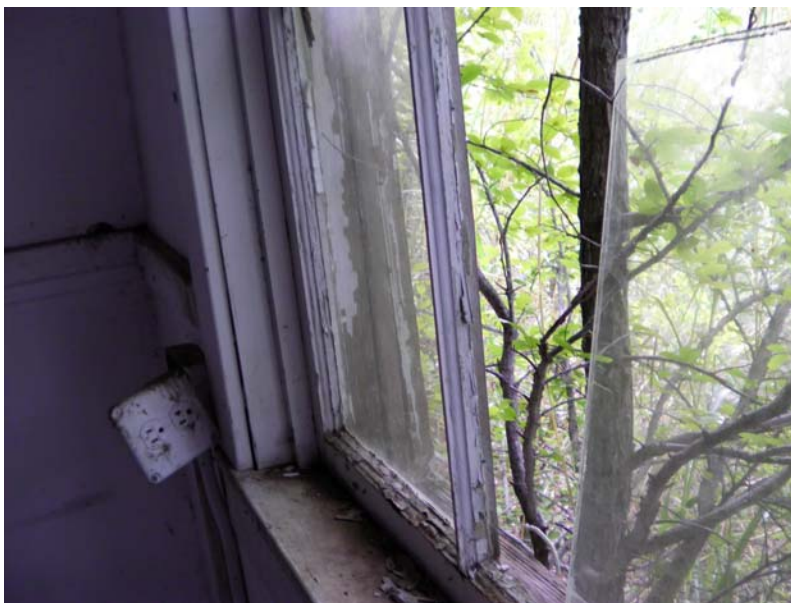


PHOTO 24 ►

Building 551. TSI debris was identified as an ACBM (also in Building 552).

Taken by: David Horn
Date: 9/22/2010



PHOTO LOG

PHOTO 25 ►

Building 551. TSI on furnace, flue and overhead vessel were identified as ACBM's (also in Building 552).

Taken by: David Horn
Direction: Northwest
Date: 9/22/2010



PHOTO 26 ►

Building 551. Transite panels on interior walls of boiler room were identified as ACBM's (also in Building 552).

Taken by: David Horn
Direction: Southwest
Date: 9/22/2010



PHOTO 27 ►

Building 551. TSI on piping was identified as an ACBM (also in Building 552).

Taken by: David Horn
Direction: Northeast
Date: 9/22/2010



PHOTO LOG

PHOTO 28 ►

Building 551. Corrugated Transite panels above exterior doors were identified as ACBM's (also in Building 552).

Taken by: David Horn
Date: 9/22/2010



PHOTO 29 ►

Building 551. Internal baffling inside cooling tower located south of the building was identified as an ACBM (also south of Building 552).

Taken by: David Horn
Direction: South
Date: 9/22/2010



PHOTO 30 ►

Building 551. Joint compound/texture on drywall was identified as an ACBM (also in Building 552).

Taken by: David Horn
Direction: West
Date: 9/22/2010



PHOTO LOG

PHOTO 31 ►

Building 552, Room 5. Joint Compound/texture on drywall was identified as an ACBM (also in Building 551).

Taken by: Deborah Farris
Direction: West
Date: 9/21/2010



PHOTO 32 ►

Building 571. VCT and mastic on floors were identified as ACBM's.

Taken by: David Horn
Date: 9/22/2010



PHOTO 33 ►

Building 571, Room 4. Roofing debris was identified as an ACBM.

Taken by: Deborah Farris
Direction: West
Date: 9/21/2010



PHOTO LOG

PHOTO 34 ►

Building 571. Acoustical ceiling tile debris was identified as an ACBM.

Taken by: David Horn
Direction: Southwest
Date: 9/22/2010



PHOTO 35 ►

Building 575. Joint compound/texture on drywall was identified as an ACBM.

Taken by: David Horn
Direction: West
Date: 9/22/2010



PHOTO 36 ►

Building 575. VCT and mastic on floors were identified as ACBM's.

Taken by: David Horn
Direction: Northwest
Date: 9/22/2010



PHOTO LOG

PHOTO 37 ►

Building 575. All of the acoustical ceiling tile (ACT) in the building, except Room 8, was identified as an ACBM.

Taken by: David Horn
Date: 9/22/2010



PHOTO 38 ►

Building 575. Devising wall between Room 9 on the left and Room 8 on the right. ACT in Room 9 was identified as an ACBM. No asbestos was detected in the ACT in Room 8.

Taken by: Deborah Farris
Direction: South
Date: 9/21/2010



PHOTO 39 ►

Building 575, Room 9. ACT, joint compound/texture on dry-wall, and VCT/mastic on floors were identified as ACBM's.

Taken by: Deborah Farris
Direction: Northwest
Date: 9/21/2010



PHOTO LOG

PHOTO 40 ►

Building 576. VCT and mastic on floors were identified as ACBM's.

Taken by: Paul Heidgerd
Direction: West
Date: 9/22/2010



PHOTO 41 ►

Building 576. Joint compound/texture on drywall and wall panel mastic were identified as ACBM's

Taken by: Paul Heidgerd
Direction: Southeast
Date: 9/22/2010



PHOTO 42 ►

Building 576, Room 8. Joint compound/texture on drywall and VCT/mastic on floors were identified as ACBM's.

Taken by: Deborah Farris
Direction: Northwest
Date: 9/21/2010



APPENDIX G

Asbestos Abatement Cost Estimate

**FORT WOLTERS TDCJ PROPERTY
ASBESTOS ABATMENT COST ESTIMATE**

Building	ACBM	Quantity	Units	Notes	Each (\$)	Total (\$)
540	Transite Shingle Siding	3,200	ft ²	Exterior	2.50	8,000.00
	Transite Soffit	191	ft ²	Exterior	2.95	563.45
	Pipe Wrap Insulation	8	ft		25.00	200.00
	Pipe Wrap Insulation Debris	20	ft		5.00	100.00
	Joint Compound/Texture on Drywall	1,829	ft ²		3.00	5,487.00
	Window Glazing/Caulking Compound	23	each	Exterior	150.00	3,450.00
541	Transite Shingle Siding	3,200	ft ²	Exterior	2.50	8,000.00
	Transite Soffit	191	ft ²	Exterior	2.95	563.45
	Pipe Wrap Insulation	8	ft		25.00	200.00
	Joint Compound/Texture on Drywall	1,829	ft ²		3.00	5,487.00
	Window Glazing/Caulking Compound	26	each	Exterior	150.00	3,900.00
578	Drywall/Joint Compound	485	ft ²		7.00	3,395.00
551	9x9 VCT	3,167	ft ²		2.50	7,917.50
	Transite Shingle Siding	6,464	ft ²	Exterior	2.50	16,160.00
	Transite Porch Roofs	324	ft ²	Exterior	2.95	955.80
	Transite Panels	672	ft ²		3.50	2,352.00
	Pipe Wrap Insulation	200	ft	2" diam.	20.00	4,000.00
	HVAC Duct Vibration Gaskets	30	ft		5.00	150.00
	Furnace Insulation	60	ft ²		25.00	1,500.00
	Flue Insulation	12	ft	1.5' diam.	25.00	300.00
	Vessel Insulation	8	ft	1.5' diam.	25.00	200.00
	Cooling Tower Internal Baffles	64	ft ³	Exterior	35.00	2,240.00
	Joint Compound/Texture on Drywall	13,408	ft ²		3.00	40,224.00
	Window Glazing Compound	34	each	Exterior	150.00	5,100.00
552	9x9 VCT	5,031	ft ²		2.50	12,577.50
	Transite Shingle Siding	6,464	ft ²	Exterior	2.50	16,160.00
	Transite Porch Roofs	288	ft ²	Exterior	2.95	849.60
	Transite Panels	672	ft ²		3.50	2,352.00
	Pipe Wrap Insulation	200	ft	2" diam.	20.00	4,000.00
	HVAC Duct Vibration Gaskets	30	ft		250.00	7,500.00
	Furnace Insulation	60	ft ²		25.00	1,500.00
	Flue Insulation	12	ft	1.5' diam.	25.00	300.00
	Vessel Insulation	8	ft	1.5' diam.	25.00	200.00
	Cooling Tower Internal Baffles	64	ft ³	Exterior	35.00	2,240.00
	Joint Compound/Texture on Drywall	13,312	ft ²		3.00	39,936.00
	Window Glazing Compound	35	each	Exterior	150.00	5,250.00
571	9x9 VCT	5,255	ft ²		2.50	13,137.50
	Roofing Mastic	6,000	ft ²	Exterior	2.80	16,800.00
	Suspended Acoustical Ceiling Panels	28	ft ²	Debris	4.00	112.00
575	9x9 VCT	6,209	ft ²		2.50	15,522.50
	Suspended Acoustical Ceiling Panels	4,264	ft ²		3.25	13,858.00
	Joint Compound/Texture on Drywall	10,829	ft ²		3.00	32,487.00
576	9x9 VCT	7,167	ft ²		2.50	17,917.50
	Joint Compound/Texture on Drywall	15,885	ft ²		3.00	47,655.00
	Wall Panel Mastic on Drywall	232	ft ²		0.00	0.00
TOTAL						370,799.80

AIR MONITORING / PROJECT MANAGEMENT COSTS

Mileage	0.50 mile	250	10	1,250.00
AMT/day	600 day	40		24,000.00
IAC	100 hour	50		5,000.00
Per Diem	46 day	40		1,840.00
Lodging	77 day	40		3,080.00
Spec	5,000 lump	1		5,000.00
TOTAL				40,170.00

GRAND TOTAL 410,969.80

APPENDIX H

Inspector and Agency Licenses



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

DOUGHERTY SPRAGUE ENVIRONMENTAL INC

is certified to perform as a

Asbestos Consultant Agency

in the State of Texas within the purview of Texas Occupations Code, chapter 1954, so long as this license is not suspended or revoked and is renewed according to the rules adopted by the Texas Board of Health.

A handwritten signature in dark ink, reading "David Lakey MD".

DAVID LAKEY, M.D.
COMMISSIONER OF HEALTH

License Number: 100447

Control Number: 96231

Expiration Date: 7/14/2011

(Void After Expiration Date)

VOID IF ALTERED

NON-TRANSFERABLE



Texas Department of State Health Services

Asbestos Individual Consultant

DAVID E HORN

License No. 105591

Control No. 95745

Expiration Date: 02/01/2011





Texas Department of State Health Services

Asbestos Individual Management Planner

PAUL W HEIDGERD

License No. 205485

Control No. 95647

Expiration Date: 2/6/2012



LEAD-BASED PAINT INSPECTION REPORT



Dougherty Sprague Environmental
3902 Industrial Street, Suite A
Rowlett, Texas 75088
Phone: 972-412-8666
Fax: 972-412-8660

October 21, 2010

Ms. Beverly Post
US Army Corps of Engineers, Fort Worth District
819 Taylor Street
Fort Worth, Texas 76102-0300

Re: Targeted Brownfields Assessment - Lead-based Paint Inspection
Fort Wolters Texas Department of Criminal Justice Property
16.37 Acre Tract
Mineral Wells, Texas 76067
dse Project No. 1037503

Dear Ms. Post:

Dougherty Sprague Environmental, Inc. (**dse**) has completed a lead-based paint inspection of the buildings located on the referenced property. The findings of our work, together with conclusions and recommendations are presented in the attached report.

Should there be any questions concerning this report, please contact us at the number above. It has been a pleasure providing environmental services for US Army Corps of Engineers, Fort Worth District and we look forward to being of continued service.

Sincerely,
Dougherty Sprague Environmental, Inc.

A handwritten signature in blue ink, appearing to read "Deborah Farris", is written over a light blue circular stamp.

Deborah Farris
Lead Risk Assessor
TDSHS License #2070717

A handwritten signature in blue ink, appearing to read "Cathy West Dougherty", is written over a light blue circular stamp.

Cathy West Dougherty, PE
CEO, Principal Engineer

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY	2
2.0 BUILDING DESCRIPTIONS	4
3.0 LEAD-BASED PAINT INSPECTION	12
4.0 FINDINGS	13
5.0 RECOMMENDATIONS	14
6.0 LIMITATIONS	15

APPENDICES

- A. BACKGROUND INFORMATION ABOUT LEAD
- B. LEAD-BASED PAINTS POSITIVE XRF RESULTS TABLE
- C. ELEVATED LEAD SAMPLE PHOTOGRAPH LOG
- D. FIGURES – BUILDING FLOORPLANS
- E. LEAD-BASED PAINT ABATEMENT COST ESTIMATE
- F. LEAD XRF RESULTS LOG
- G. LEAD RISK ASSESSOR & **dse** LEAD FIRM LICENSES

TARGETED BROWNFIELDS ASSESSMENT LEAD-BASED PAINT INSPECTION REPORT

**Fort Wolters Texas Department of Criminal Justice Property
16.37 Acre Tract at the Southeast Corner of Cross Post Rd. and Grant Rd.
Mineral Wells (Parker County), Texas 76067**

dse Project Number: 1037503

1.0 EXECUTIVE SUMMARY

On September 21 & 22, 2010, Dougherty Sprague Environmental, Inc. (**dse**), as authorized by Ms. Jennifer Miller, Contract Specialist for the United States Army Corp of Engineers (USACE), conducted an inspection for the presence of lead-based paint (LBP) on buildings on the Fort Wolters Texas Department of Criminal Justice (TDCJ) Property. This is a 16.37 acre tract located at the southeast corner of Cross Post Road and Grant Road in Mineral Wells, Texas (Subject Property). This assessment is being provided to the City of Mineral Wells through the U.S. Environmental Protection Agency (EPA) Region 6 Targeted Brownfields Assessment (TBA) program.

The buildings were visually inspected to identify interior and exterior building components with similar distinct painting histories and the potential to contain LBP. The condition of the painted surfaces was evaluated to identify any deteriorated paint that could potentially cause worker exposure. An X-ray fluorescence analyzer (XRF) was used to measure the concentration of lead in paint on the identified painted building components. The measurement should be considered a surface or near surface measurement because the X-rays penetrate from just a few microns (on metal) to ¼ inch (on plastics and other softer substrates). Paint that contains lead at a concentration equal to or greater than 1 mg/cm² (0.5% by weight) is considered to have an elevated lead concentration and is defined as a LBP by the Texas Department of State Health Services (TDSHS).

The Subject Property contained eight buildings with various dates of construction. Based on an estimated construction date of prior to 1959 for at least a portion of the buildings, **dse** anticipated encountering LBP. No previous LBP inspections or LBP abatement reports were provided or reported to exist.

To accomplish this assessment, 336 surface samples were taken using an XRF. One hundred and five (105) of the 336 surface samples analyzed contained lead in concentrations ranging from 1 mg/cm² to greater than 5 mg/cm². Six of the eight buildings on the Subject Property (Buildings 540, 541, 551, 552, 571, and 578) tested positive for LBP on multiple surfaces/locations. In one building (Building 576), only one positive LBP sample was taken of a door frame. One building, Building 575, did not have any positive LBP samples identified.

The interiors of the buildings were tested on a room by room basis. Therefore, if a surface or wall within a room tested positive for LBP, it was assumed that like surfaces within that

particular room were also positive for LBP. If a surface on the exterior of a building tested positive for LBP, it can be assumed that like surfaces on the exterior of the building are also positive for LBP. One of approximately every 20 samples collected by XRF was duplicated for Quality Assurance (QA) purposes. A total of ten QA duplicates were taken. Standardization of the XRF was also conducted for QA purposes prior to sampling of each building.

If the buildings on the Subject Property are demolished, demolition debris containing LBP should be segregated from other demolition debris and then sampled and analyzed using the Toxic Characteristic Leachate Procedure (TCLP) in order to classify and code the waste for disposal.

If the buildings on the Subject Property are renovated and converted for use as “Target Housing” or “Child-Occupied Facilities” as defined by the TDSHS, the identified LBP should be abated by a TDSHS Licensed Lead Abatement Firm. The work of the Lead Abatement Firm should be monitored by a TDSHS Licensed Lead Inspector or Lead Risk Assessor. Waste containing LBP generated during the LBP abatement should be sampled and analyzed using the TCLP in order to classify and code the waste for disposal.

The findings of this LBP inspection indicate that demolition or renovation of the buildings on the Subject Property may cause worker exposure to an airborne concentration of lead in excess of the current OSHA action level.

OSHA has published a “Standard Interpretation” letter that allows employers to use objective data to demonstrate that manual demolition of structures, manual scraping and manual sanding of material with paint containing less than 0.06% (0.12 mg/cm²) lead will not expose workers to an airborne concentration of lead above the OSHA “Action Level”. At least one XRF sample in each of the buildings exceeded the 0.06% threshold that would allow the use of objective data in place of exposure assessments.

- Based on a review of the OSHA standard for lead (29 CFR 1962.62) and other available information, worker exposure assessments may be required to evaluate the work practices planned at the buildings on the Subject Property.
- Based on the findings of exposure assessments that may be required by OSHA, an air monitoring program, respiratory protection and engineering controls may be required for further demolition and renovation activities at the buildings on the Subject Property.

2.0 BUILDING DESCRIPTIONS

The buildings on the Subject Property were all accessible during the inspection. The observed buildings were generally in poor condition with no electrical lighting available.

Name: Building 578	Inspection Date: September 21, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Office	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: 200 sq. ft.	
Number of Floors: One	Basement: No
Attic: No	Crawl Space: No
Exterior: Corrugated steel panels	
Foundation: Concrete slab	
Interior Framing: Steel	
Interior Wall Finishes: Drywall, with taped and bedded joints	
Interior Ceiling Finishes: Drywall	
Lighting: None	
HVAC: None	
Domestic Hot Water: None	
Out Buildings: None	
Elevators: None	
Previous lead-based paint inspections: No previous lead-based paint inspection or abatement reports were available.	
Planned Renovations: Unknown.	
Planned Demolition: Unknown.	

Name: Building 540	Inspection Date: September 21, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Motor Pool, Vehicle Maintenance	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: Original Building (wood) 2,975 sq. ft., Addition (steel) 3,250 sq. ft.	
Number of Floors: One	Basement: No
Attic: Loft over office/Parts Room/Bathroom	Crawl Space: No
Exterior: Original – cementitious ACBM shingles (Transite), Addition – Corrugated steel panels	
Foundation: Concrete slabs	
Interior Framing: Original – wood 2x4 studs, Addition - steel	
Interior Wall Finishes: Drywall, with taped and bedded joints in Office, Parts Room, Bathroom	
Interior Ceiling Finishes: Drywall, with taped and bedded joints in Office, Parts Room, Bathroom	
Lighting: None	
HVAC: Overhead Modine heaters	
Domestic Hot Water: 50-gal gas hot water heater in bathroom	
Out Buildings: None	
Elevators: None	
Previous lead-based paint inspections: No previous lead-based paint inspection or abatement reports were available.	
Planned Renovations: Unknown.	
Planned Demolition: Unknown.	

Name: Building 541	Inspection Date: September 21, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Motor Pool, Vehicle Maintenance	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: Original Building (wood) 2,975 sq. ft., Addition (steel) 5,500 sq. ft.	
Number of Floors: One	Basement: No
Attic: Loft over office/Parts Room/Bathroom	Crawl Space: No
Exterior: Original – cementitious (ACBM transite) shingles, Addition – Corrugated steel panels	
Foundation: Concrete slabs	
Interior Framing: Original – wood 2x4 studs, Addition - steel	
Interior Wall Finishes: Drywall, with taped and bedded joints in Office, Parts Room, Bathroom	
Interior Ceiling Finishes: Drywall, with taped and bedded joints in Office, Parts Room, Bathroom	
Lighting: None	
HVAC: Overhead Modine heaters	
Domestic Hot Water: 50-gal gas hot water heater in bathroom	
Out Buildings: None	
Elevators: None	
Previous lead-based paint inspections: No previous lead-based paint inspection or abatement reports were available.	
Planned Renovations: Unknown.	
Planned Demolition: Unknown.	

Name: Building 576	Inspection Date: September 21, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Classrooms	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: ~ 8,100 sq. ft.	
Number of Floors: One	Basement: No
Attic: No	Crawl Space: No
Exterior: Corrugated steel panels	
Foundation: Concrete slabs	
Interior Framing: Steel	
Interior Wall Finishes: Drywall, with taped and bedded seams	
Interior Ceiling Finishes: Drywall and 2x4 suspended acoustical tile	
Lighting: None	
HVAC: Gas furnace, electric AC w/air handlers and ducts (vandalized)	
Domestic Hot Water: Unknown – did have water (bathroom & showers)	
Out Buildings: None	
Elevators: None	
Previous lead-based paint inspections: No previous lead-based paint inspection or abatement reports were available.	
Planned Renovations: Unknown.	
Planned Demolition: Unknown.	

Name: Building 551	Inspection Date: September 22, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Classrooms	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: 5,425 sq. ft.	
Number of Floors: One	Basement: No
Attic: No	Crawl Space: No
Exterior: Cementitious (ACBM transite) shingles	
Foundation: Concrete slabs	
Interior Framing: Wood	
Interior Wall Finishes: Drywall, with taped and bedded seams	
Interior Ceiling Finishes: None, open to underside of roof deck	
Lighting: None	
HVAC: Exterior cooling tower, interior air handlers, interior gas furnace	
Domestic Hot Water: Originally boiler, replaced with 50-gal. SFR water heater (gas)	
Out Buildings: None, 6x6 attached fire sprinkler room at NE corner	
Elevators: None	
Previous lead-based paint inspections: No previous lead-based paint inspection or abatement reports were available.	
Planned Renovations: Unknown.	
Planned Demolition: Unknown.	

Name: Building 552	Inspection Date: September 22, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Classrooms	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: 5,425 sq. ft.	
Number of Floors: One	Basement: No
Attic: No	Crawl Space: No
Exterior: Cementitious (ACBM transite) shingles	
Foundation: Concrete slabs	
Interior Framing: Wood	
Interior Wall Finishes: Drywall, with taped and bedded seams	
Interior Ceiling Finishes: Fiberglass panels attached to underside of wood roof deck	
Lighting: None	
HVAC: Exterior cooling tower, interior air handlers, interior gas furnace	
Domestic Hot Water: Originally boiler, replaced with 50-gal. SFR water heater (gas)	
Out Buildings: None, 6x6 attached fire sprinkler room at NW corner	
Elevators: None	
Previous lead-based paint inspections: No previous lead-based paint inspection or abatement reports were available.	
Planned Renovations: Unknown.	
Planned Demolition: Unknown.	

Name: Building 571	Inspection Date: September 22, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Unknown, likely classrooms	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: ~5,600 sq. ft.	
Number of Floors: One	Basement: No
Attic: No	Crawl Space: No
Exterior: Cinder block	
Foundation: Concrete slabs	
Interior Framing: Cinder block	
Interior Wall Finishes: Cinder block with plaster coating	
Interior Ceiling Finishes: Suspended 2x4 acoustical tile	
Lighting: None	
HVAC: None observed, duct work visible (roof collapsed)	
Domestic Hot Water: None observed (roof collapsed)	
Out Buildings: None	
Elevators: None	
Previous lead-based paint inspections: No previous lead-based paint inspection or abatement reports were available.	
Planned Renovations: Unknown.	
Planned Demolition: Unknown.	

Name: Building 575	Inspection Date: September 22, 2010
Address: Southeast corner of Cross Post Road and Grant Road	
City, State: Mineral Wells, Texas	
Use: Classrooms	Age: Prior to 1959, Approximately 51 years
Employees: None	
Area: 7,200 sq. ft.	
Number of Floors: One	Basement: No
Attic: No	Crawl Space: No
Exterior: Corrugated steel panels	
Foundation: Concrete slabs	
Interior Framing: Steel	
Interior Wall Finishes: Drywall with taped and bedded seams	
Interior Ceiling Finishes: Suspended 2x4 acoustical tile	
Lighting: None	
HVAC: Gas heat with furnace, electric AC with air handler (vandalized)	
Domestic Hot Water: Unknown – did have water (bathroom & showers)	
Out Buildings: None	
Elevators: None	
Previous lead-based paint inspections: No previous lead-based paint inspection or abatement reports were available.	
Planned Renovations: Unknown.	
Planned Demolition: Unknown.	

3.0 LEAD-BASED PAINT INSPECTION

The purpose of the inspection was to identify the presence of LBP within buildings on the Subject Property, which is targeted for divestiture. The main emphasis of the LBP inspection was to identify suspect lead concentrations in paint on interior and exterior surfaces of the buildings that would be required to be remediated prior to divestiture. Ms. Deborah Farris performed the LBP inspection. Ms. Farris is a State of Texas licensed and accredited Lead Risk Assessor. A copy of Ms. Farris' accreditation is attached in **Appendix G**.

The sampling guidelines used for the inspection were in general accordance with TDSHS guidelines. The guidelines define criteria for inspections of LBP in "Target Housing" and "Child Occupied Facilities" and though the Subject Property has not been historically used as Target Housing, these criteria were used as the most conservative approach for this site. No samples were physically collected. All sampling was conducted using an XRF analyzer to measure the concentration of lead in paint. Paint that contains lead at a concentration equal to or greater than 1 mg/cm² (0.5% by weight) lead is considered to have an elevated lead concentration and is defined as LBP by the TDSHS.

In addition to the collection of the XRF measurements, each building was visually inspected to identify building components with similar distinct painting histories with the potential to contain LBP. The condition of the painted surfaces was evaluated to identify any deteriorated paint.

This assessment consisted of 336 surface samples that were taken using a portable XRF. One hundred and five (105) of the 336 surface samples analyzed contained lead in concentrations ranging from 1 mg/cm² to greater than 5 mg/cm². Six of the eight buildings on the Subject Property (Buildings 540, 541, 551, 552, 571, and 578) tested positive for LBP on multiple surfaces/locations. In one building (Building 576), only one positive LBP sample was taken of a door frame. One building, Building 575, did not have any positive samples identified.

The interiors of the buildings were tested on a room by room basis. Therefore, if a surface or wall within a room tested positive for LBP, it can be assumed that like surfaces within that particular room were also positive for LBP. The exterior of the buildings were tested in a manner that if a surface on the exterior of a building tested positive for LBP, it can be assumed that like surfaces on the exterior of the building are also positive for LBP. One of approximately every 20 samples collected by XRF was duplicated for Quality Assurance (QA) purposes. A total of ten QA duplicates were taken. Standardization of the XRF was also conducted prior to sampling of each building for QA purposes.

A Lead-Based Paint Positive XRF Results Table is located in **Appendix B**. Photographs of locations with elevated lead levels are included in **Appendix C**. A complete Lead-Based Paint XRF Results Log is located in **Appendix F**.

4.0 FINDINGS

All paint locations sampled were considered by the inspector to be in poor condition. A total of three hundred and thirty-six (336) surface samples were taken using a portable XRF. One hundred and five (105) of the three hundred and thirty-six (336) surface samples analyzed contained lead in concentrations ranging from 1 mg/cm² to greater than 5 mg/cm². Six of the eight buildings on the Subject Property (Buildings 540, 541, 551, 552, 571, and 578) tested positive for LBP on multiple surfaces/locations. In one building (Building 576), only one positive LBP sample was taken of a door frame. One building, Building 575, did not have any positive samples identified.

A complete descriptive listing of results can be found in the Lead-Based Paint Positive XRF Results Table in **Appendix B**. Photographs of sample locations with elevated lead concentrations are located in **Appendix C**. Floor Plan Layouts of each building on the Subject Property are included in **Appendix D – Figures – Building Floorplans**. The Building Floorplans also indicate the locations of positive LBP samples. A LBP abatement cost estimate is included in **Appendix E**. Approximate square footages of LBP containing areas are given for informational purposes only. If these numbers are used in Abatement Specifications, it is the responsibility of the Abatement Contractor to confirm estimated footage.

5.0 RECOMMENDATIONS

If the buildings on the Subject Property are demolished, demolition debris containing LBP should be segregated from other demolition debris and then sampled and analyzed using the Toxic Characteristic Leachate Procedure (TCLP) in order to classify and code the waste for disposal.

If the buildings on the Subject Property are renovated and converted for use as “Target Housing” or “Child-Occupied Facilities” as defined by the TDSHS, the identified LBP should be abated by a TDSHS Licensed Lead Abatement Firm. The work of the Lead Abatement Firm should be monitored by a TDSHS Licensed Lead Inspector or Lead Risk Assessor. Waste containing LBP generated during the LBP abatement should be sampled and analyzed using the TCLP in order to classify and code the waste for disposal.

The findings of this LBP inspection indicate that demolition or renovation of the buildings on the Subject Property may cause worker exposure to an airborne concentration of lead in excess of the current OSHA action level.

OSHA has published a “Standard Interpretation” letter that allows employers to use objective data to demonstrate that manual demolition of structures, manual scraping and manual sanding of material with paint containing less than 0.06% (0.12 mg/cm²) lead will not expose workers to an airborne concentration of lead above the OSHA “Action Level”. At least one XRF sample in each of the buildings exceeded the 0.06% threshold that would allow the use of objective data in place of exposure assessments.

- Based on a review of the OSHA standard for lead (29 CFR 1962.62) and other available information, worker exposure assessments may be required to evaluate the work practices planned at the buildings on the Subject Property.

Based on the findings of exposure assessments that may be required by OSHA, an air monitoring program, respiratory protection and engineering controls may be required for further demolition and renovation activities at the buildings on the Subject Property.

6.0 LIMITATIONS

The assessment, sampling and analysis of LBPs is a highly interpretive activity. Great variability can be experienced in sampling results due to the nature of building construction materials and techniques, even with experienced personnel and careful sample collection. **dse** has conducted this investigation using trained professionals following applicable government regulations and guidelines but cannot represent guarantees or warrantee results. This assessment indicates conditions only at the time of sampling in the locations sampled. Conditions at other locations and times may vary significantly from these results, which are limited by budget and time constraints.

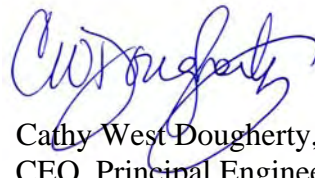
Approximate square footage of LBP containing areas are given for informational purposes only. If these numbers are used in Abatement Specifications, it is the responsibility of the Abatement Contractor to confirm estimated footage.

In order to understand all of the implications of this report, this entire report, including all attachments and appendices, must be read and understood. Any reader failing to read the entire report can not hold **dse** responsible for any liabilities arising from this failure. If a reader has any questions about this report, its contents and/or conclusions, please contact **dse** at your convenience.

No warranty is expressed or implied by this report of the LBP inspection described herein. The limit of liability for omissions or errors, if identified, shall be the cost of these services rendered by **dse** to the Client. No use of this report is authorized except as expressly discussed within. Furthermore, as this report is intended for the sole use of The City of Mineral Wells, USACE, and the EPA, reliance is not authorized to other parties except as clearly described in writing by both the Client and **dse**.



Deborah Farris
Lead Risk Assessor
TDSHS License #207071



Cathy West Dougherty, PE
CEO, Principal Engineer

APPENDIX A

BACKGROUND INFORMATION ABOUT LEAD

BACKGROUND INFORMATION ABOUT LEAD

Long recognized as a serious public health threat, lead can damage the environment as well as humans, particularly the brain and nervous system. Even a low level of lead exposure can cause human learning disabilities, hearing loss, speech, language and behavior problems, and other serious health effects in children. Lead-contaminated dust and lead contaminated paint are a major source of lead intake for children. Airborne lead enters the body when an individual breathes or swallows lead particles or dust. Paint chips are often picked up and swallowed by small children.

Lead occurs naturally in soils in the environment at very low levels. Relatively high level sources of lead occur in older paint (most modern paints do not contain lead) and pre-1980 car exhaust (the lead from automobile exhaust in vehicles using leaded gasoline is ultimately deposited on the ground in dust, which children play in). Industrial, non-paint sources include smelters, foundries and automobile related manufacturing. Other common lead sources exist such as pewter pitchers and dinnerware, birdshot and fishing weights. In the past, toothpaste tubes were made of lead and condensed milk and other cans were soldered with lead. These materials are now required to be lead-free. Lead can also be found in drinking water from homes and community water systems with lead pipes or copper pipes soldered with lead solder. New building codes require non-lead pipes and lead free solder.

Infants and children most at risk are those living in pre-sixties housing where paint often contained lead. These children, when small, often ingest paint chips or dust from lead-based paint (LBP). Soil in cities with high traffic density and/or airport vicinity areas may contain high levels of lead from car/plane exhaust. There are few clear-cut symptoms of lead poisoning. Very high levels may lead to an acute encephalopathy. Low levels of lead are thought to be detrimental to mental development and have been implicated in decreased IQ and mental functioning. Hard evidence for this, however, is still questionable. Anemia with lead poisoning is common. Specific symptoms are nebulous but hyperirritability, decreased appetite and energy, and loss of recently acquired developmental skills have all been associated with lead poisoning. Abdominal cramping may be present. In severe cases of lead intoxication, encephalopathy develops with vomiting, staggering gait, motor weakness from peripheral neuropathy, seizures and coma.

Effective April 22, 2010, contractors performing renovations, repairs or painting in residences (single and multi-family) and "child occupied facilities" as defined by EPA (daycare centers, elementary schools, hospitals, etc.) built before 1978 that disturbs painted surfaces is now subject to the Renovation, Repair and Painting (RRP) rule. Any activities which disturbs six (6) square feet or more of interior painted surfaces in a room, or twenty (20) square feet of an exterior painted surface, or the replacement of windows regardless of size and number, are covered under the RRP rule.

Under the new rule, in buildings built before 1978, contractors must assume paint disturbing activities involve LBP, or test the paint to be disturbed using an EPA approved chemical spot-test kit to determine if LBP is present. Alternatively, a LBP assessment can be performed by a

state licensed and EPA accredited LBP Inspector using a hand-held XRF analyzer, which provides instant results without physical damage to the painted surface.

APPENDIX B

LEAD-BASED PAINT POSITIVE XRF RESULTS TABLE

LEAD-BASED PAINT POSITIVE XRF RESULTS TABLE**InnovX Systems 6500/Serial #9987****Ft. Wolters Texas Department of Criminal Justice Property****Mineral Wells, Texas**

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	Photo #(s)
2	Building 578 - Exterior	Exterior	Eave	metal		3.07	1
3	Building 578 - Exterior	Door	Door	metal		1.71	1
11	Building 578 - Room 2	Door	Door - exterior	metal		1.48	1
13	Building 578 - Room 2	Room	Wall	drywall	B	2.99	2
29	Building 540 - Metal Building	Window	Frame	wood		4.54	4, 5
30	Building 540 - Metal Building	Window	Sill	wood		4.42	4, 5
31	Building 540 - Metal Building	Window	Sash	wood		4.69	4, 5
33	Building 540 - Wood Building	Exterior	Bay Door	wood		4.11	6
34	Building 540 - Wood Building	Exterior	Bay Door Frame	metal		5.00	6
35	Building 540 - Wood Building	Exterior	Window Frame	wood		5.00	6
36	Building 540 - Wood Building	Exterior	Door	wood		4.72	7
37	Building 540 - Wood Building	Exterior	Door Frame	wood		4.45	7
39	Building 540 - Wood Building-Office	Room	Lower Wall	drywall	A	1.00	8
40	Building 540 - Wood Building-Office	Window	Frame	wood	B	1.36	9
41	Building 540 - Wood Building-Office	Window	Sill	wood	B	1.53	9
42	Building 540 - Wood Building-Office	Window	Sash	wood	B	1.05	9
43	Building 540 - Wood Building-Office-*QA	Window	Sash	wood	B	1.25	9
44	Building 540 - Wood Building-Office	Door	Door	wood		1.09	10
45	Building 540 - Wood Building-Office	Door	Frame	wood		1.12	10
51	Building 540 - Wood Building-Garage	Room	Post	metal		1.21	11
52	Building 540 - Wood Building-Garage-*QA	Room	Post	metal		1.15	11
53	Building 540 - Wood Building-Garage	Door	Bay Door	wood		1.52	11
54	Building 540 - Wood Building-Parts Room	Door	Frame	wood		1.32	12
56	Building 540 - Wood Building-Parts Room	Room	Lower Wall - blue	drywall	A	1.15	12, 13
57	Building 540 - Wood Building-Parts Room	Room	Lower Wall - green	drywall	A	1.06	12, 13
59	Building 540 - Wood Building-Parts Room	Room	Lower Wall	wood	B	1.55	14
60	Building 540 - Wood Building-Parts Room	Window	Frame	wood		5.00	13
61	Building 540 - Wood Building-Parts Room	Window	Sill	wood		5.00	13
62	Building 540 - Wood Building-Parts Room	Window	Sash	wood		5.00	13
70	Building 540 - Wood Building-Bathroom	Room	Upper Wall	drywall	B	1.00	15
71	Building 540 - Wood Building-Bathroom	Room	Lower Wall	drywall	B	1.00	15
73	Building 540 - Wood Building-Bathroom	Window	Sill	wood		1.05	
77	Building 541 - Metal Building	Exterior	Bay Door Frame	metal		2.59	16

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

* Performed retesting for quality assurance

LEAD-BASED PAINT POSITIVE XRF RESULTS TABLE**InnovX Systems 6500/Serial #9987****Ft. Wolters Texas Department of Criminal Justice Property****Mineral Wells, Texas**

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	Photo #(s)
78	Building 541 - Metal Building	Exterior	Post	metal		3.84	16
83	Building 541 - Metal Building	Room	Post	metal		1.74	17
86	Building 541 - Metal Building	Window	Frame	wood	D	3.84	18
87	Building 541 - Metal Building	Window	Sill	wood	D	5.00	18
88	Building 541 - Metal Building	Window	Sash	wood	D	4.49	18
93	Building 541 - Wood Building	Exterior	Door Frame	wood		4.71	19
94	Building 541 - Wood Building	Exterior	Window Sash	wood		3.03	19
95	Building 541 - Wood Building	Exterior	Bay Door Frame	metal		5.00	19
96	Building 541 - Wood Building	Exterior	Bay Door	wood		4.55	19
97	Building 541 - Wood Building	Exterior	Post	metal		5.00	19
98	Building 541 - Wood Building-Office	Room	Wall	drywall	C	1.00	20, 21
104	Building 541 - Wood Building-Rm. 2	Room	Ceiling	drywall		1.00	22
105	Building 541 - Wood Building-Rm. 2	Room	Cubby	wood	C	1.26	24
106	Building 541 - Wood Building-Rm. 2	Window	Frame	wood	A	1.13	22, 23
107	Building 541 - Wood Building-Rm. 2	Window	Sill	wood	A	1.10	22, 23
112	Building 541 - Wood Building-Bathroom	Room	Wall	drywall	C	1.00	26
115	Building 541 - Wood Building-Garage	Room	Bay Door	wood	B	1.76	25
116	Building 541 - Wood Building-Garage	Room	Post	metal	B	5.00	25
176	Building 552 - Room 1	Window	Sash	wood		1.52	27, 28, 29
178	Building 552 - Hallway 1	Door	Frame	wood		1.22	30
192	Building 552 - Room 4	Window	Frame	wood	A	1.60	31, 32, 33
194	Building 552 - Room 4	Window	Sash	wood	A	1.34	31, 32, 33
195	Building 552 - Room 6	Door	Frame	wood		2.21	34
196	Building 552 - Room 6	Room	Wall	drywall	B	1.00	34, 35
202	Building 552 - Room 8	Room	Wall	drywall	C	1.00	36
204	Building 552 - Hallway 2	Room	Wall	drywall	B	1.00	
205	Building 552 - Room 9	Room	Wall	drywall	A	1.00	37, 38
206	Building 552 - Room 9	Window	Frame	wood	B	1.14	38
212	Building 552 - Room 10	Room	Wall	drywall	B	1.00	40
215	Building 552 - Room 10	Window	Frame	wood	A	1.98	39
216	Building 552 - Room 10	Window	Sill	wood	A	1.77	39
217	Building 552 - Room 10	Window	Sash	wood	A	1.72	39
225	Building 551 - Room 2	Room	Upper Wall	drywall	A	1.00	41, 42

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

* Performed retesting for quality assurance

LEAD-BASED PAINT POSITIVE XRF RESULTS TABLE**InnovX Systems 6500/Serial #9987****Ft. Wolters Texas Department of Criminal Justice Property****Mineral Wells, Texas**

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	Photo #(s)
227	Building 551 - Room 2	Window	Frame	wood	D	1.28	41
232	Building 551 - Room 3	Window	Frame	wood	A	1.74	43, 44
233	Building 551 - Room 3	Window	Sill	wood	A	1.80	43, 44
234	Building 551 - Room 3	Window	Sash	wood	A	1.19	43, 44
235	Building 551 - Room 4	Room	Wall	drywall	A	1.00	45, 46
238	Building 551 - Room 4	Window	Frame	wood		1.54	46
239	Building 551 - Room 4	Window	Sill	wood		1.70	46
242	Building 551 - Room 5	Room	Wall	drywall	D	1.00	47
244	Building 551 - Room 5	Window	Sill	wood		1.47	47
245	Building 551 - Room 5	Window	Sash	wood		1.03	47
248	Building 551 - Room 7	Door	Door	wood		1.30	
252	Building 551 - Room 8	Room	Wall	drywall	A	1.00	48
253	Building 551 - Room 8	Room	Ceiling	drywall		1.00	48
254	Building 551 - Room 8	Room	Stall Door	wood		1.22	48
258	Building 551 - Room 9	Room	Stall	wood		1.00	49
260	Building 551 - Room 9-*QA	Room	Stall	wood		1.00	49
261	Building 551 - Hallway	Door	Frame	wood		2.86	50
263	Building 551 - Hallway	Room	Wall	drywall	B	1.00	50
265	Building 551 - Hallway	Window	Sill	wood		1.51	50
266	Building 551 - Hallway	Window	Sash	wood		1.41	50
267	Building 551 - Room 10	Room	Wall	drywall	A	1.00	52, 53
268	Building 551 - Room 10	Window	Frame	wood		1.94	51
269	Building 551 - Room 10	Window	Sill	wood		1.28	51
270	Building 551 - Room 10	Window	Sash	wood		1.14	51
273	Building 551 - Room 11	Door	Door	wood	C	1.66	53
274	Building 551 - Room 11	Door	Frame	wood	C	2.27	54
275	Building 551 - Room 11	Room	Wall	drywall	C	1.00	54
276	Building 551 - Room 11	Window	Frame	wood	A	2.57	55
277	Building 551 - Room 11	Window	Sill	wood	A	1.39	55
278	Building 551 - Room 11	Window	Sash	wood	A	1.58	55
279	Building 551 - Room 11-*QA	Window	Sash	wood	A	1.38	55
281	Building 571 - Exterior	Exterior	Wall	concrete		2.41	56
282	Building 571 - Room 1	Door	Frame	wood		1.70	56

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

* Performed retesting for quality assurance

LEAD-BASED PAINT POSITIVE XRF RESULTS TABLE**InnovX Systems 6500/Serial #9987****Ft. Wolters Texas Department of Criminal Justice Property
Mineral Wells, Texas**

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	Photo #(s)
284	Building 571 - Room 1	Room	Wall	concrete	C	1.00	57
285	Building 571 - Room 2	Room	Wall	concrete	A	1.00	58, 59, 60
286	Building 571 - Room 3	Door	Frame	wood		1.47	60
289	Building 571 - Room 4	Door	Frame	wood		1.94	61
291	Building 571 - Room 4	Room	Wall	concrete	B	1.00	61
320	Building 576 - Room 7	Door	Frame	metal	A	1.00	62

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

* Performed retesting for quality assurance

APPENDIX C

ELEVATED LEAD SAMPLE PHOTOGRAPH LOG

Elevated Lead Sample Photograph Log

Photo 1 ►

Building 578

Taken by: Deborah Farris
Date: 9/21/2010
Direction: South

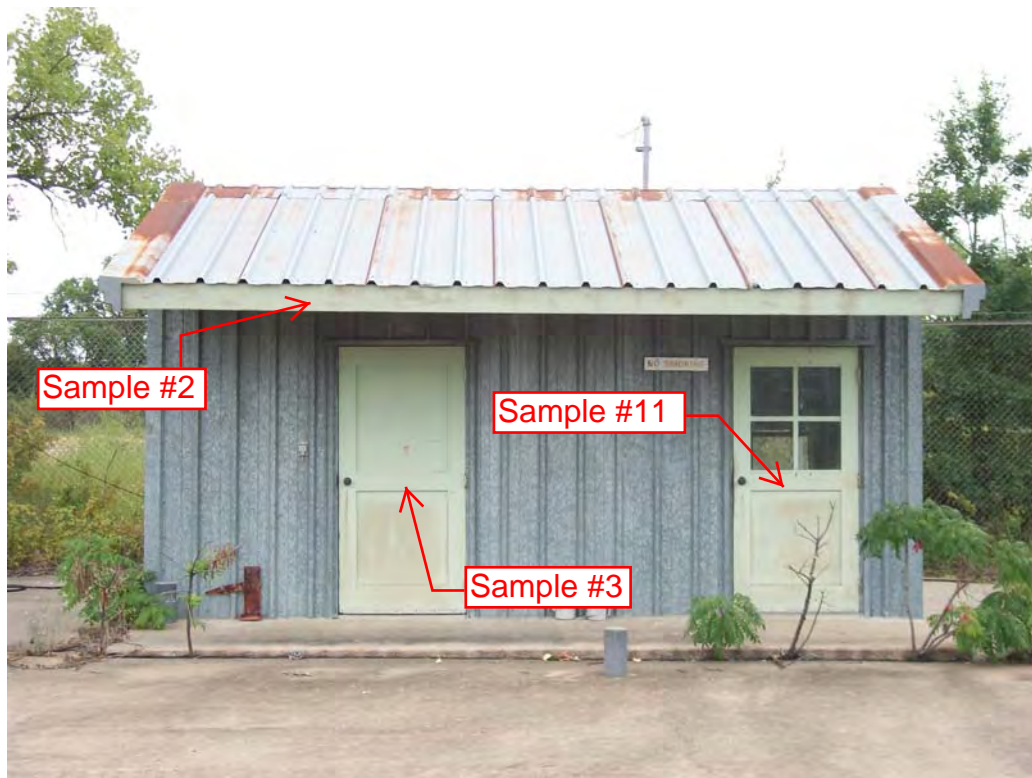


Photo 2 ►

Building 578 - Room 2

Taken by: Deborah Farris
Date: 9/21/2010
Direction: South



Elevated Lead Sample Photograph Log

Photo 3 ►

Building 540 - Metal Building

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Northwest



Photo 4 ►

Building 540 - Metal Building Interior

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Northwest



Elevated Lead Sample Photograph Log

Photo 5 ►

Building 540 - Metal Building Interior

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Northwest



Photo 6 ►

Building 540 - Wood Building

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Northwest



Elevated Lead Sample Photograph Log

Photo 7 ►

Building 540 - Wood
Building

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Northwest



Photo 8 ►

Building 540 - Wood
Building Office

Taken by: Deborah Farris
Date: 9/21/2010
Direction: West



Elevated Lead Sample Photograph Log

Photo 9 ►

Building 540 - Wood
Building Office

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Northeast



Photo 10 ►

Building 540 - Wood
Building Door to
Garage

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southwest



Elevated Lead Sample Photograph Log

Photo 11 ►

Building 540 - Wood
Building Garage
interior.

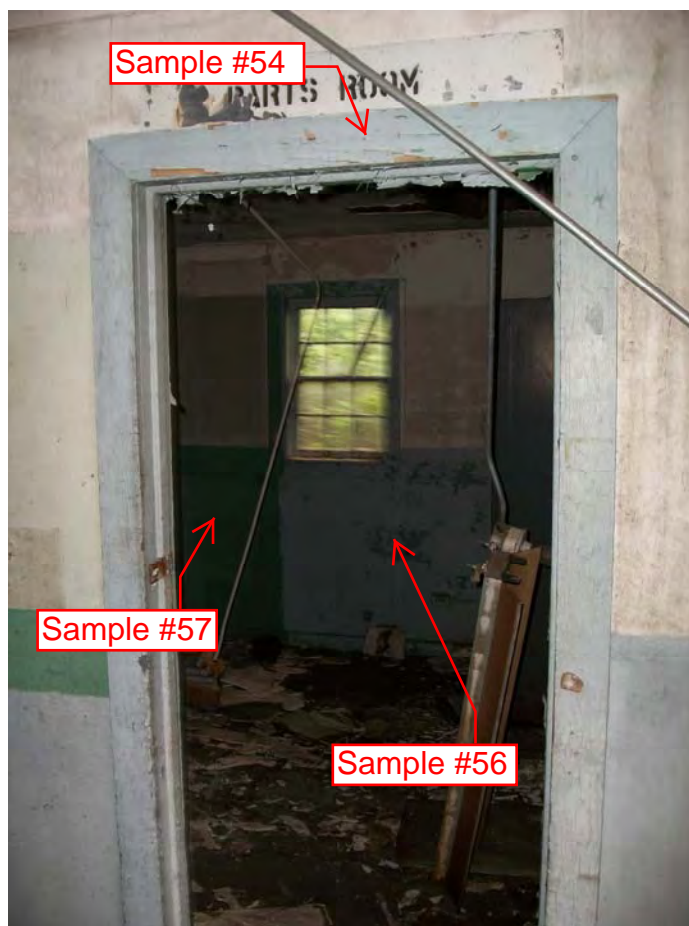
Taken by: Deborah Farris
Date: 9/21/2010
Direction: South



Photo 12 ►

Building 540 - Wood
Building Parts Room.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: North



Elevated Lead Sample Photograph Log

Photo 13 ►

Building 540 - Wood
Building Parts Room.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Northwest

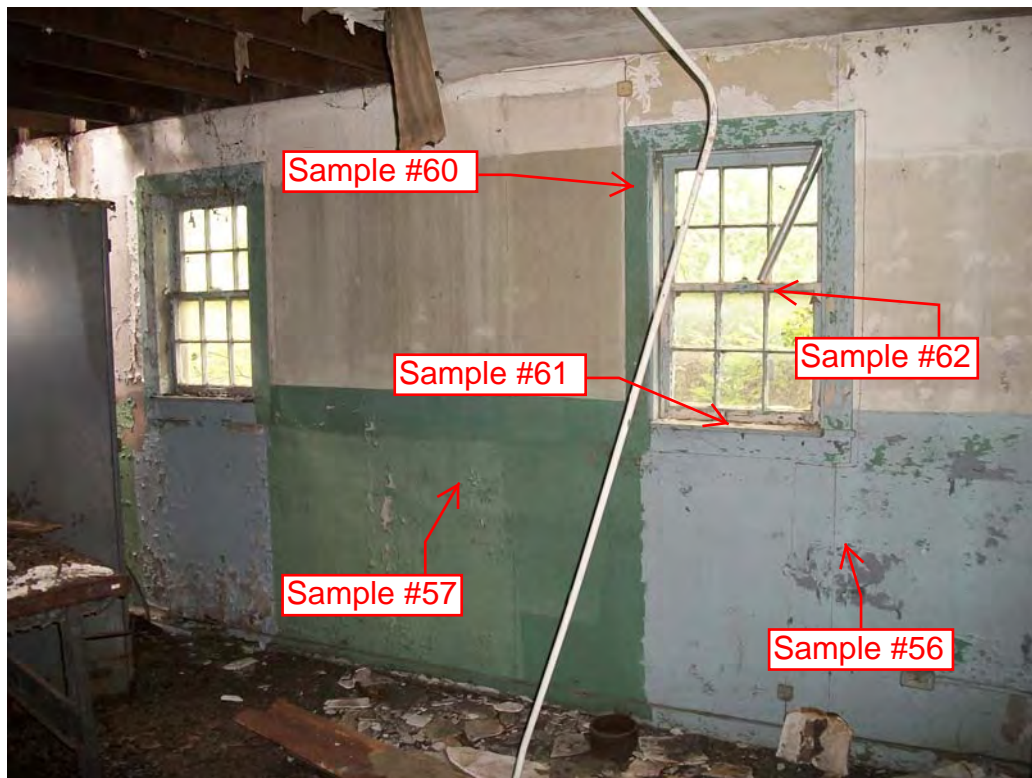


Photo 14 ►

Building 540 - Wood
Building Parts Room.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: North



Elevated Lead Sample Photograph Log

Photo 15 ►

Building 540 - Wood
Building Bathroom

Taken by: Sherri Godsey
Date: 9/21/2010
Direction: Northeast

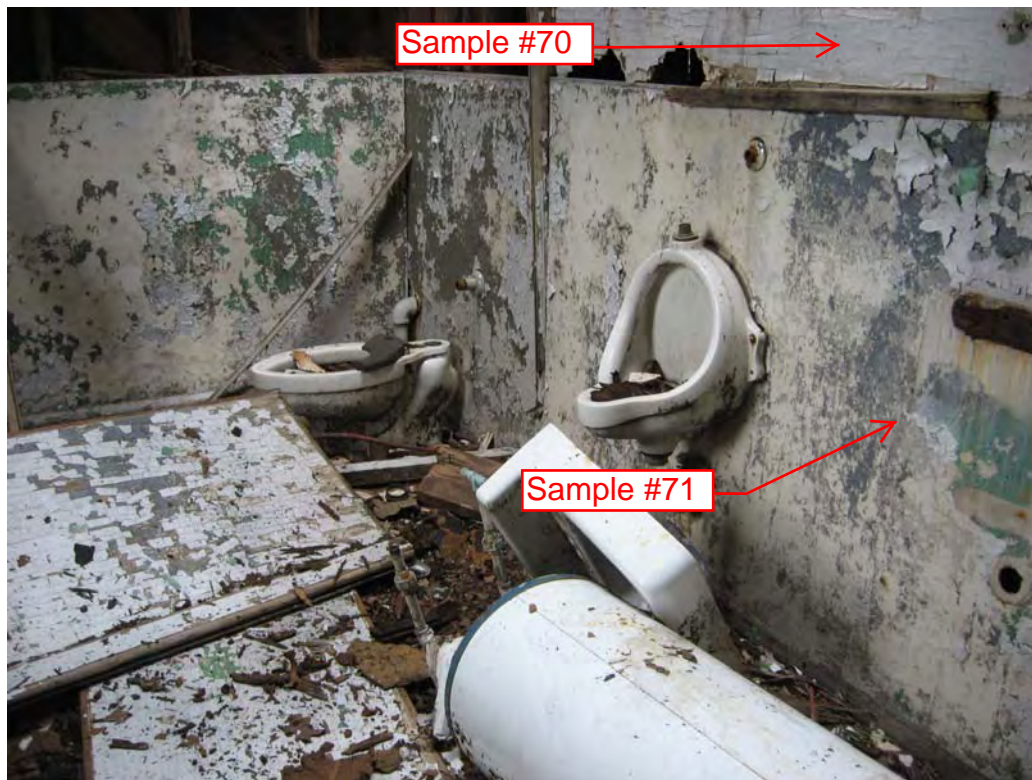


Photo 16 ►

Building 541 - Metal
Building.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: East



Elevated Lead Sample Photograph Log

Photo 17 ►

Building 541 - Metal
Building - Interior.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: North



Photo 18 ►

Building 541 - Metal
Building - Interior.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Northeast



Elevated Lead Sample Photograph Log

Photo 19 ►

Building 541 - Wood
Building.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: East



Photo 20 ►

Building 541 - Wood
Building Office.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: West



Elevated Lead Sample Photograph Log

Photo 21 ►

Building 541 - Wood
Building, Office.

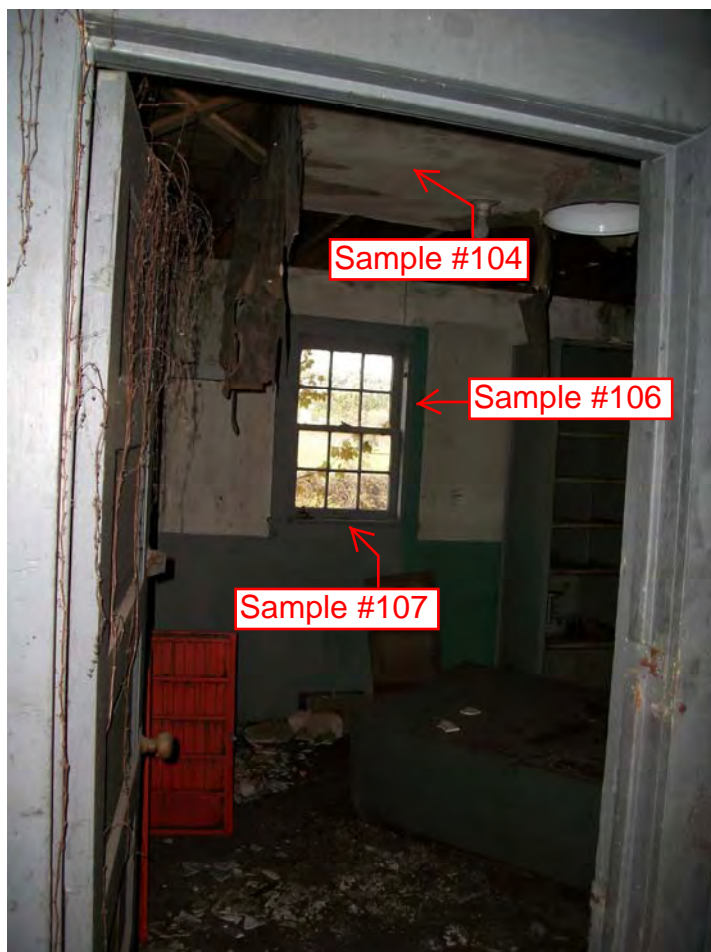
Taken by: Deborah Farris
Date: 9/21/2010
Direction: North



Photo 22 ►

Building 541 - Wood
Building, Room 2.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: North



Elevated Lead Sample Photograph Log

Photo 23 ►

Building 541 - Wood
Building, Room 2.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Northeast



Photo 24 ►

Building 541 - Wood
Building, Room 2.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: East



Elevated Lead Sample Photograph Log

Photo 25 ►

Building 541 - Wood
Building, Room 2.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: South



Photo 26 ►

Building 541 - Wood
Building, Bathroom.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southeast



Elevated Lead Sample Photograph Log

Photo 27 ►

Building 552 - Room 1.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southeast

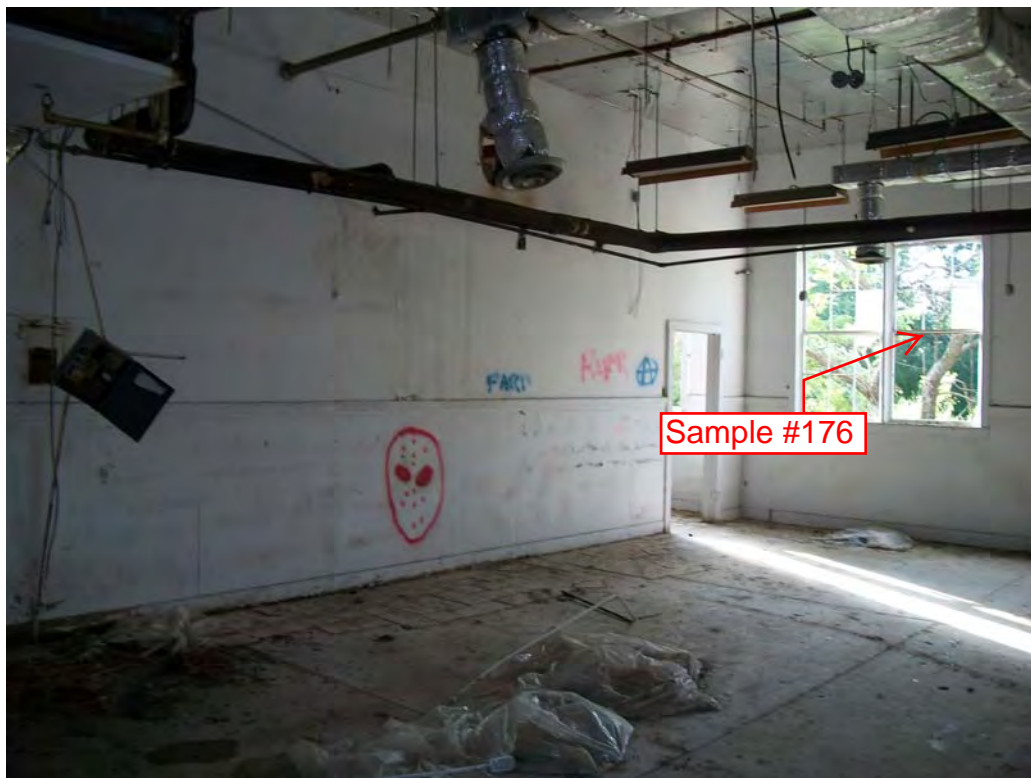


Photo 28 ►

Building 552 - Room 1.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: South



Elevated Lead Sample Photograph Log

Photo 29 ►

Building 552 - Room 1.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southwest



Photo 30 ►

Building 552 - Hallway
1.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: North



Elevated Lead Sample Photograph Log

Photo 31 ►

Building 552 - Room 4.

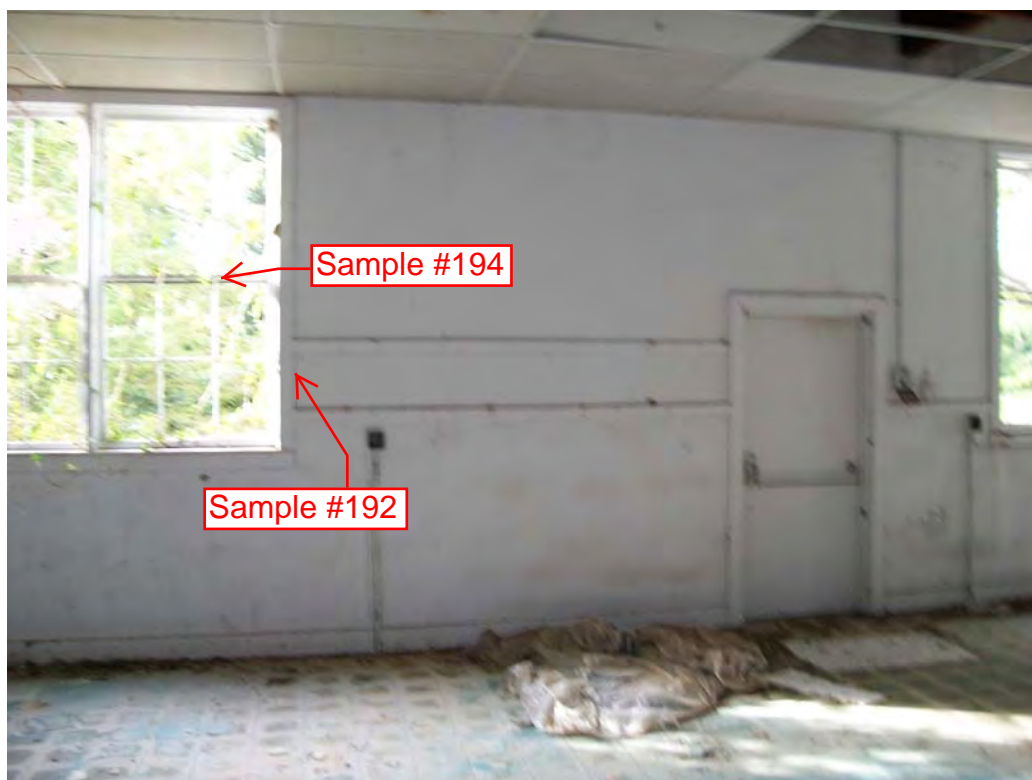
Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southeast



Photo 32 ►

Building 552 - Room 4.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: South



Elevated Lead Sample Photograph Log

Photo 33 ►

Building 552 - Room 4.

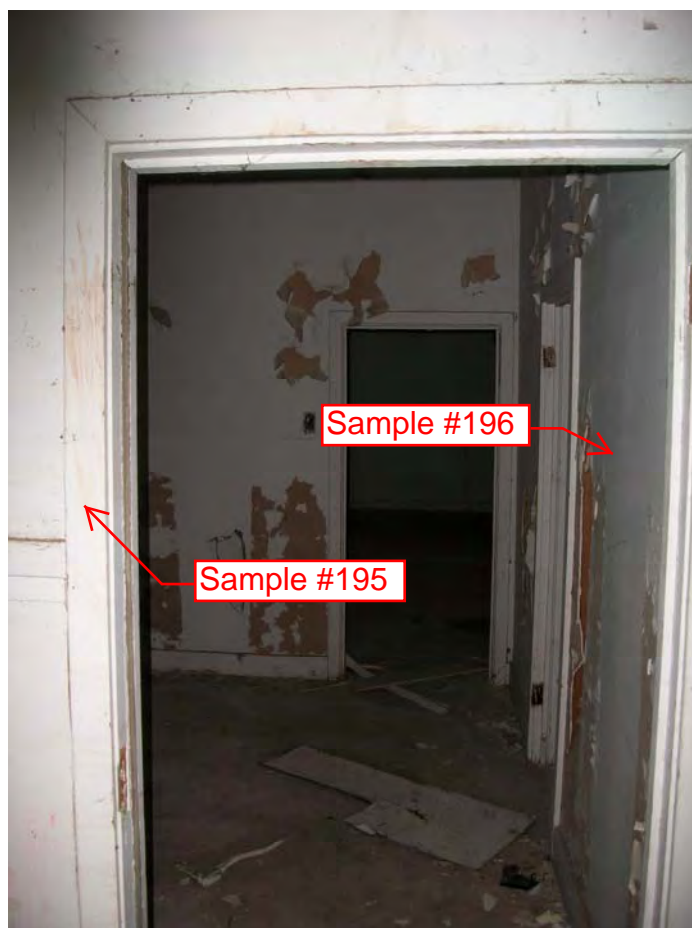
Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southwest



Photo 34 ►

Building 552 - Room 6.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: West



Elevated Lead Sample Photograph Log

Photo 35 ►

Building 552 - Room 6.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: West



Photo 36 ►

Building 552 - Room 8.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: East



Elevated Lead Sample Photograph Log

Photo 37 ►

Building 552 - Room 9.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southwest



Photo 38 ►

Building 552 - Room 9.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: West



Elevated Lead Sample Photograph Log

Photo 39 ►

Building 552 - Room 10.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southwest

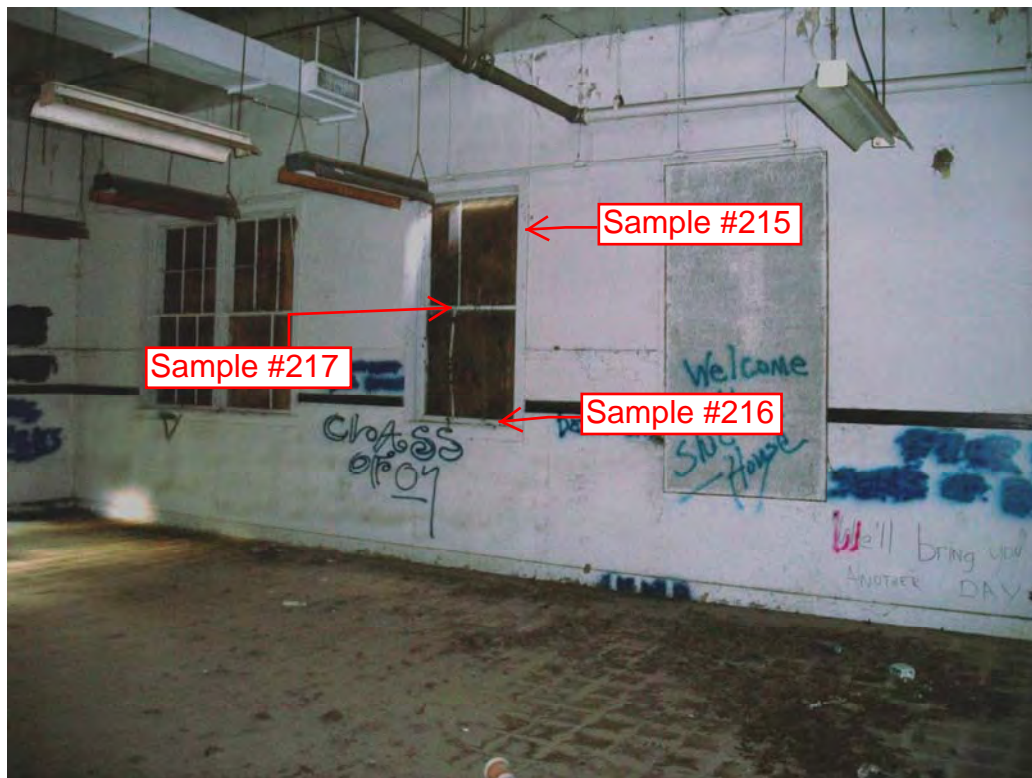


Photo 40 ►

Building 552 - Room 10.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: West



Elevated Lead Sample Photograph Log

Photo 41 ►

Building 551 - Room 2.

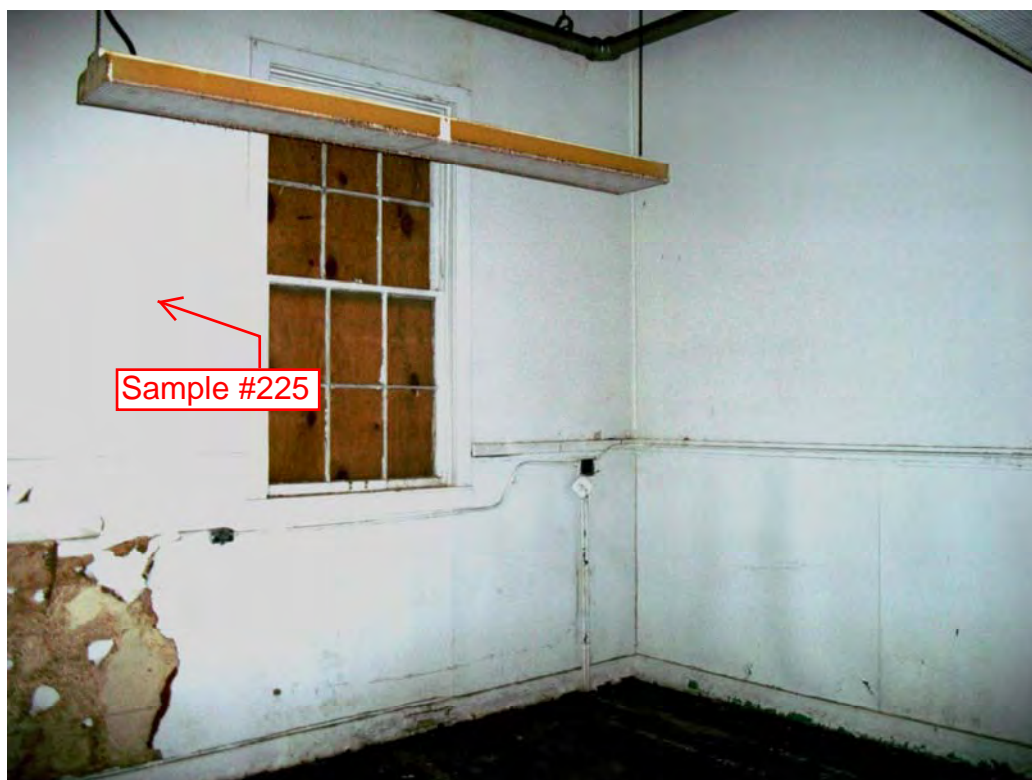
Taken by: Deborah Farris
Date: 9/21/2010
Direction: East



Photo 42 ►

Building 551 - Room 2.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southeast



Elevated Lead Sample Photograph Log

Photo 43 ►

Building 551 - Room 3.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: East



Photo 44 ►

Building 551 - Room 3.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southeast



Elevated Lead Sample Photograph Log

Photo 45 ►

Building 551 - Room 4.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: South



Photo 46 ►

Building 551 - Room 4.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southwest



Elevated Lead Sample Photograph Log

Photo 47 ►

Building 551 - Room 5.

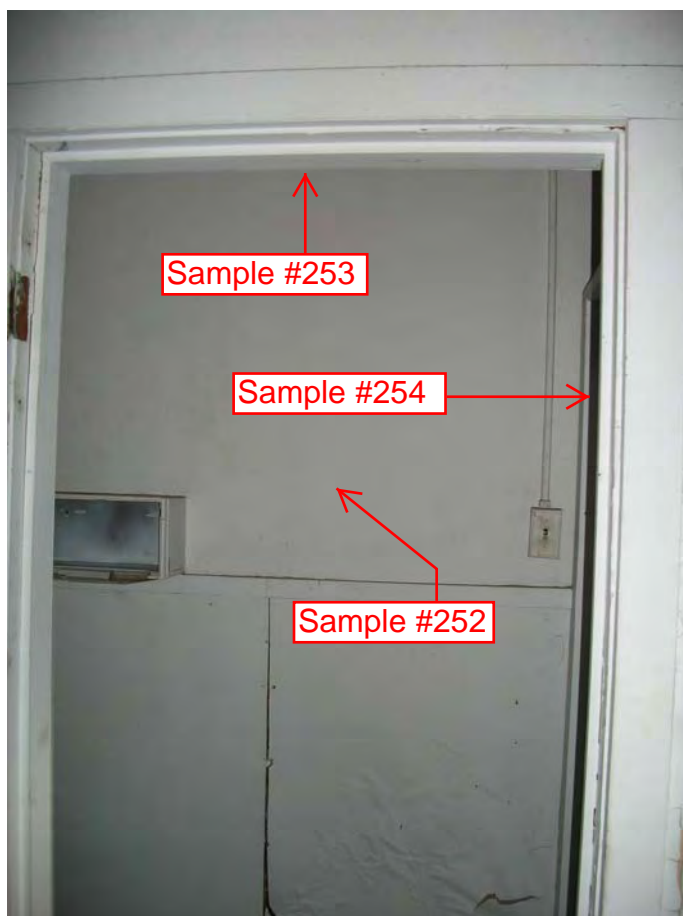
Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southwest



Photo 48 ►

Building 551 - Room 8.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: North



Elevated Lead Sample Photograph Log

Photo 49 ►

Building 551 - Room 9.

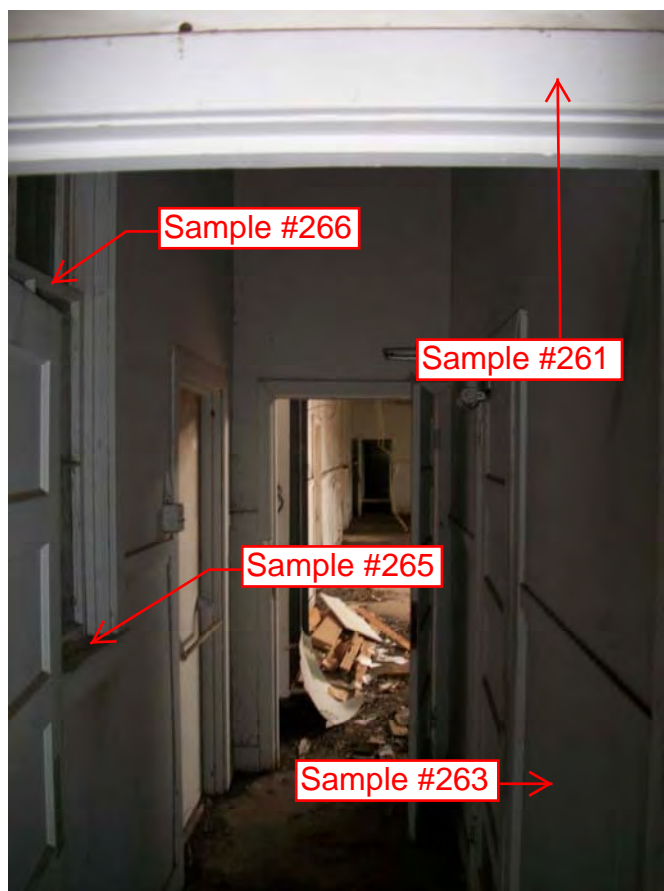
Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southeast



Photo 50 ►

Building 551 - Hallway.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: North



Elevated Lead Sample Photograph Log

Photo 51 ►

Building 551 - Room 10.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: South

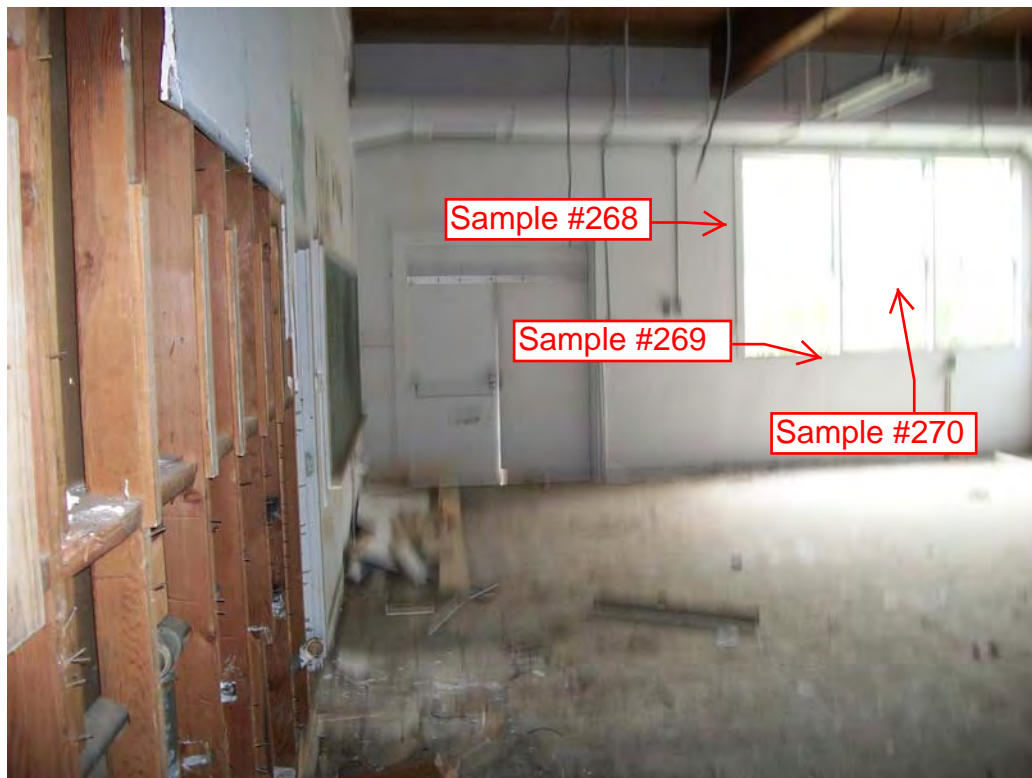


Photo 52 ►

Building 551 - Room 10.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southwest



Elevated Lead Sample Photograph Log

Photo 53 ►

Building 551 - Room 10.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: West

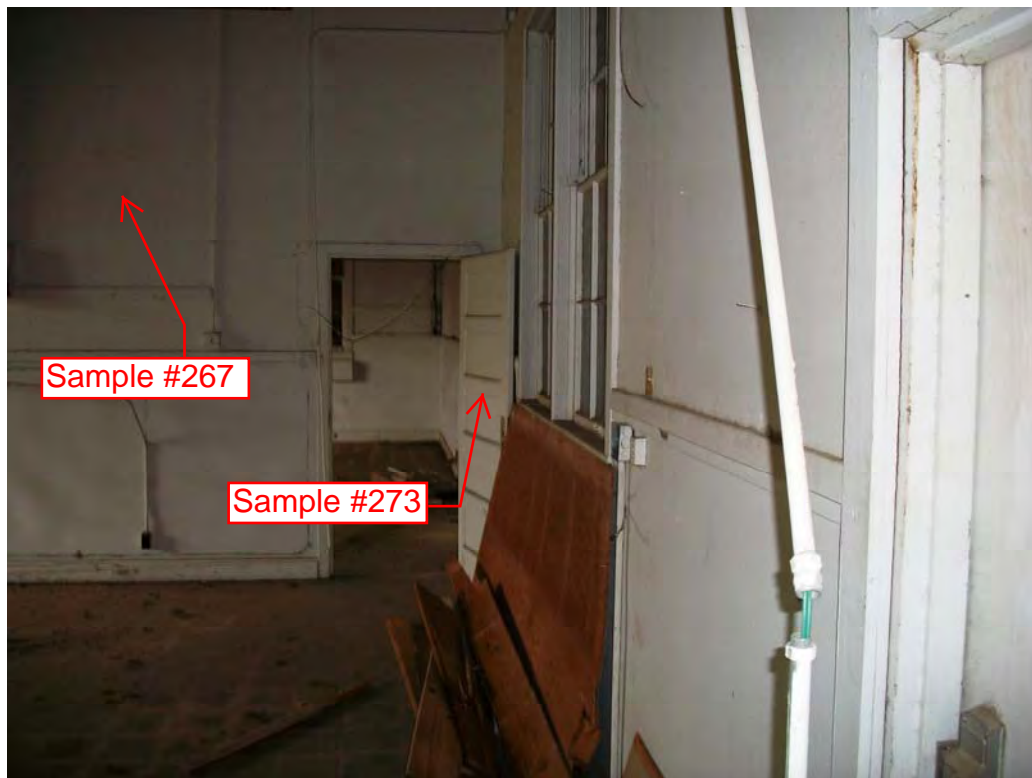
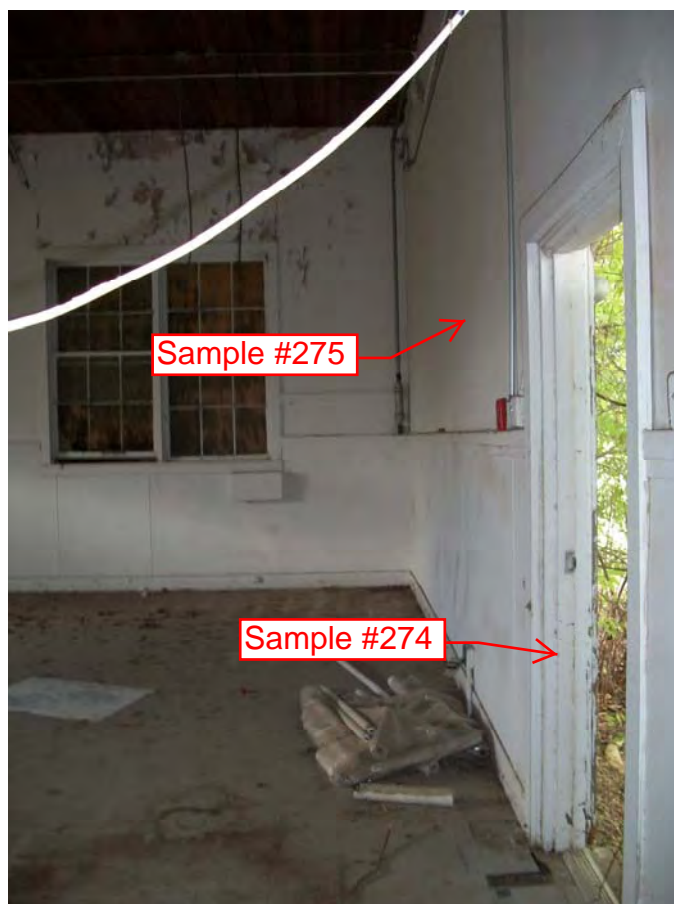


Photo 54 ►

Building 551 - Room 11.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: West



Elevated Lead Sample Photograph Log

Photo 55 ►

Building 551 - Room 11.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: Southwest

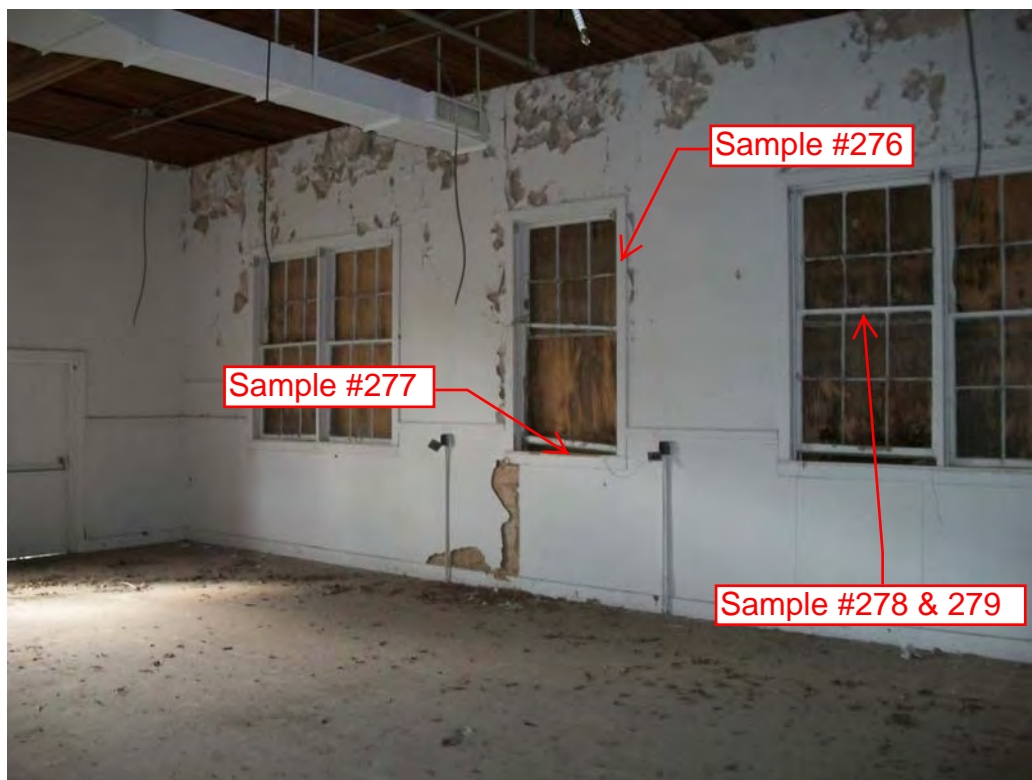


Photo 56 ►

Building 571 - Exterior, Room 1.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: South



Elevated Lead Sample Photograph Log

Photo 57 ►

Building 571 - Room 1.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: East



Photo 58 ►

Building 571 - Entrance
to Room 2.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: South



Elevated Lead Sample Photograph Log

Photo 59 ►

Building 571 - Room 2.

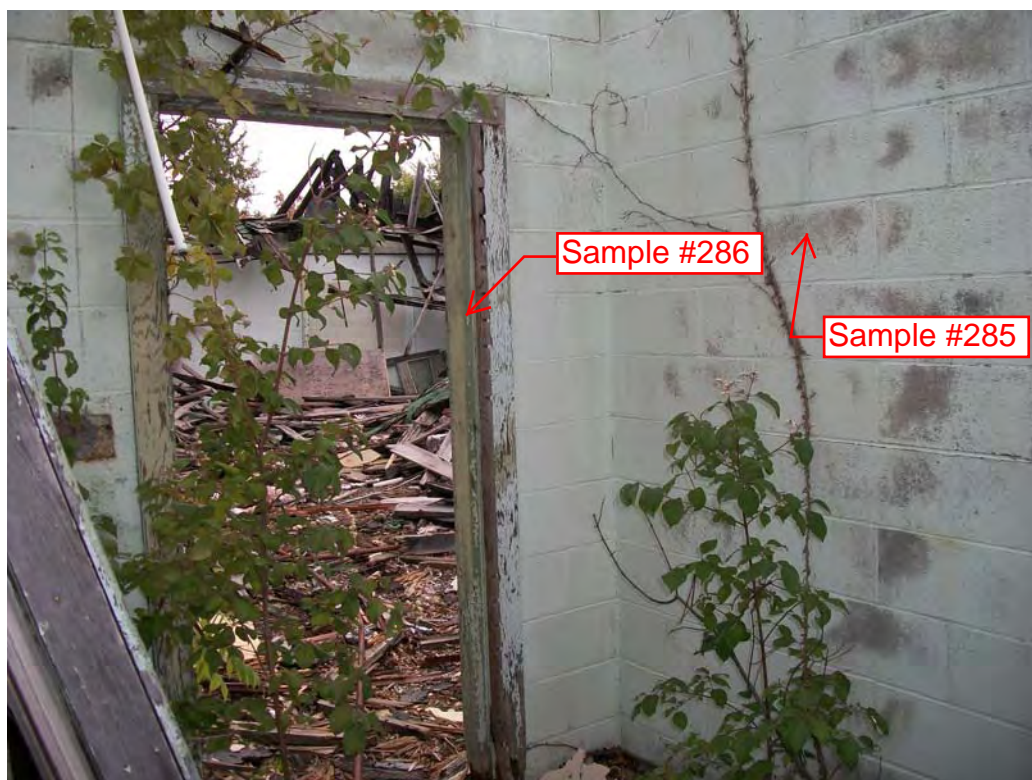
Taken by: Deborah Farris
Date: 9/21/2010
Direction: South



Photo 60 ►

Building 571 - Room 2,
Doorway to Room 3.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: East



Elevated Lead Sample Photograph Log

Photo 61 ►

Building 571 - Room 4,
Doorway.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: West



Photo 62 ►

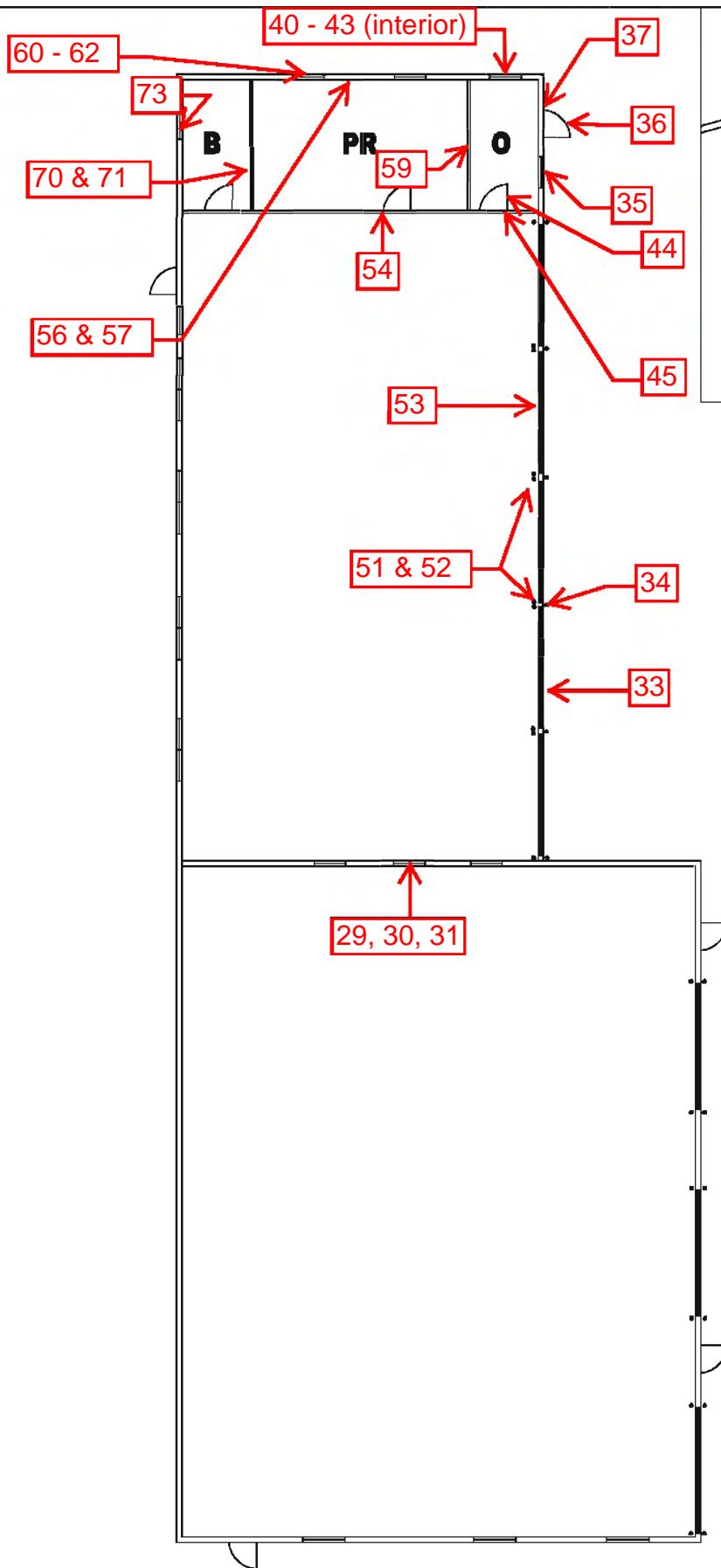
Building 576 - Room 7.

Taken by: Deborah Farris
Date: 9/21/2010
Direction: North



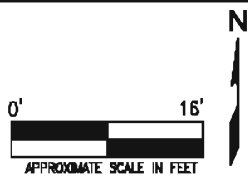
APPENDIX D

FIGURES – BUILDING FLOORPLANS



Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

MANAGER	APP. DATE	FILE NAME
DAF		CAD\Drawing.dwg-FIG1
APPROX. SCALE	DATE	PROJECT
1"=16'	CS	9/29/10 1037503

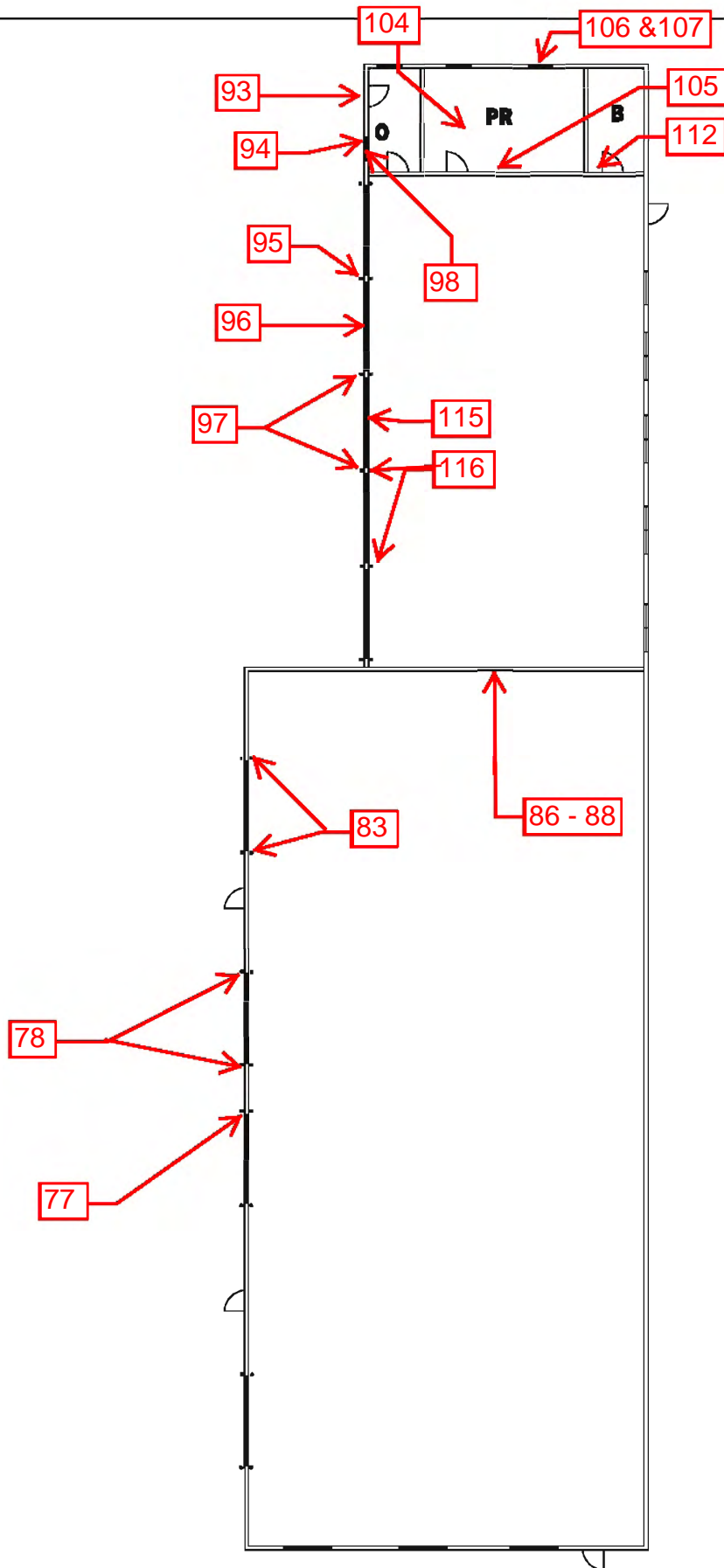


LEGEND

O	Office	Window
B	Bathroom	Service bay doors
PR	Parts room	Concrete post
S	Storage	
C	Classroom	
1	Room number	

FIGURE 1 Lead-Based Paint Inspection Building 540

Fort Wolters - TDCJ Property
Cross Post Road/Grant Road
Mineral Wells, TX 76067



Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

MANAGER	APP. DATE	FILE NAME	
DAF		CAD\Drawing.dwg-FIG2	
APPROX. SCALE	DRWN	DATE	PRIORITY
1"=21'	CS	9/29/10	1037503

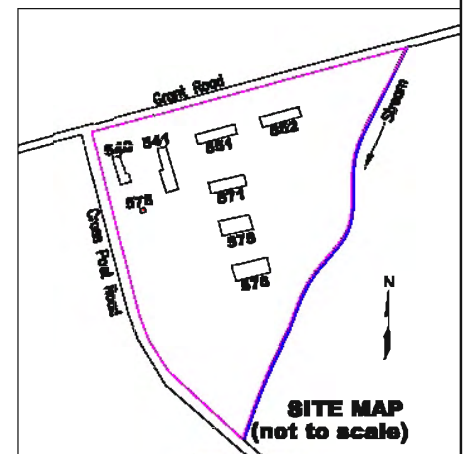
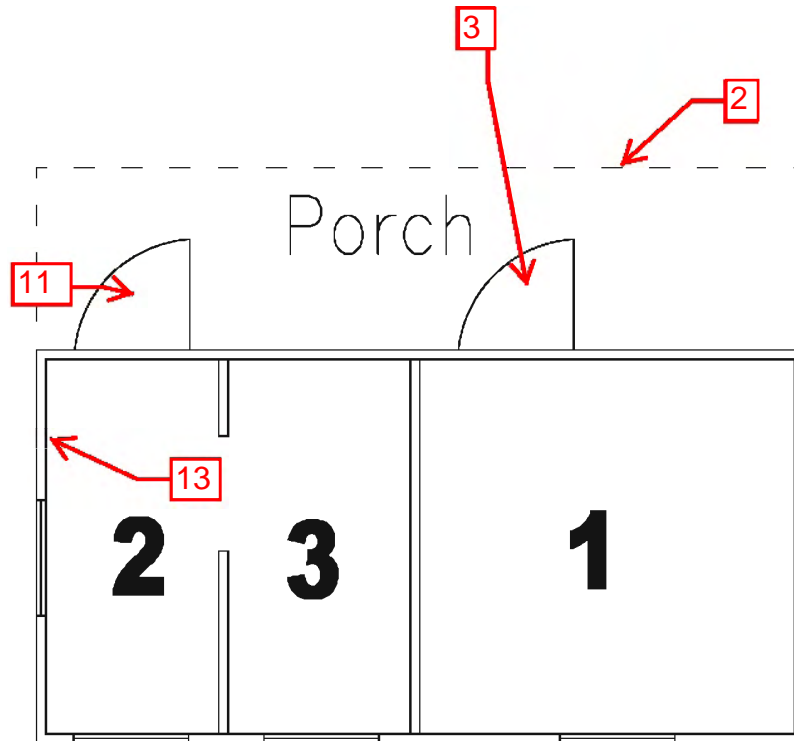


LEGEND

O	Office	—	Window
B	Bathroom	—	Service bay doors
PR	Parts room	•	Concrete post
S	Storage		
C	Classroom		
1	Room number		

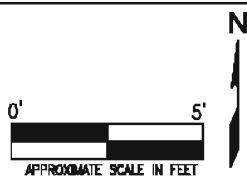
FIGURE 2 Lead-Based Paint Inspection Building 541

Fort Walters – TDCJ Property
Cross Post Road/Grant Road
Mineral Wells, TX 76067



Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

MANAGER	APP. DATE	FILE NAME	
DAF		CAD\Drawing.dwg-FIG3	
APPROX. SCALE	DRAWN	DATE	PROJECT
1"=5'	CS	9/29/10	1037503



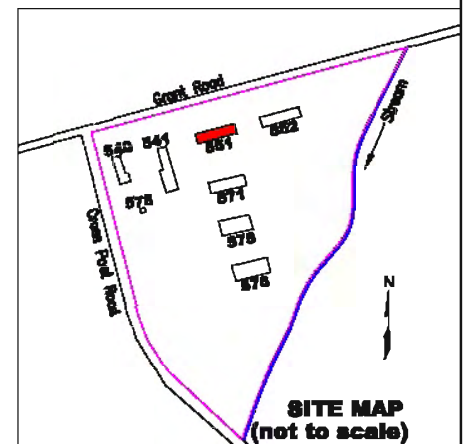
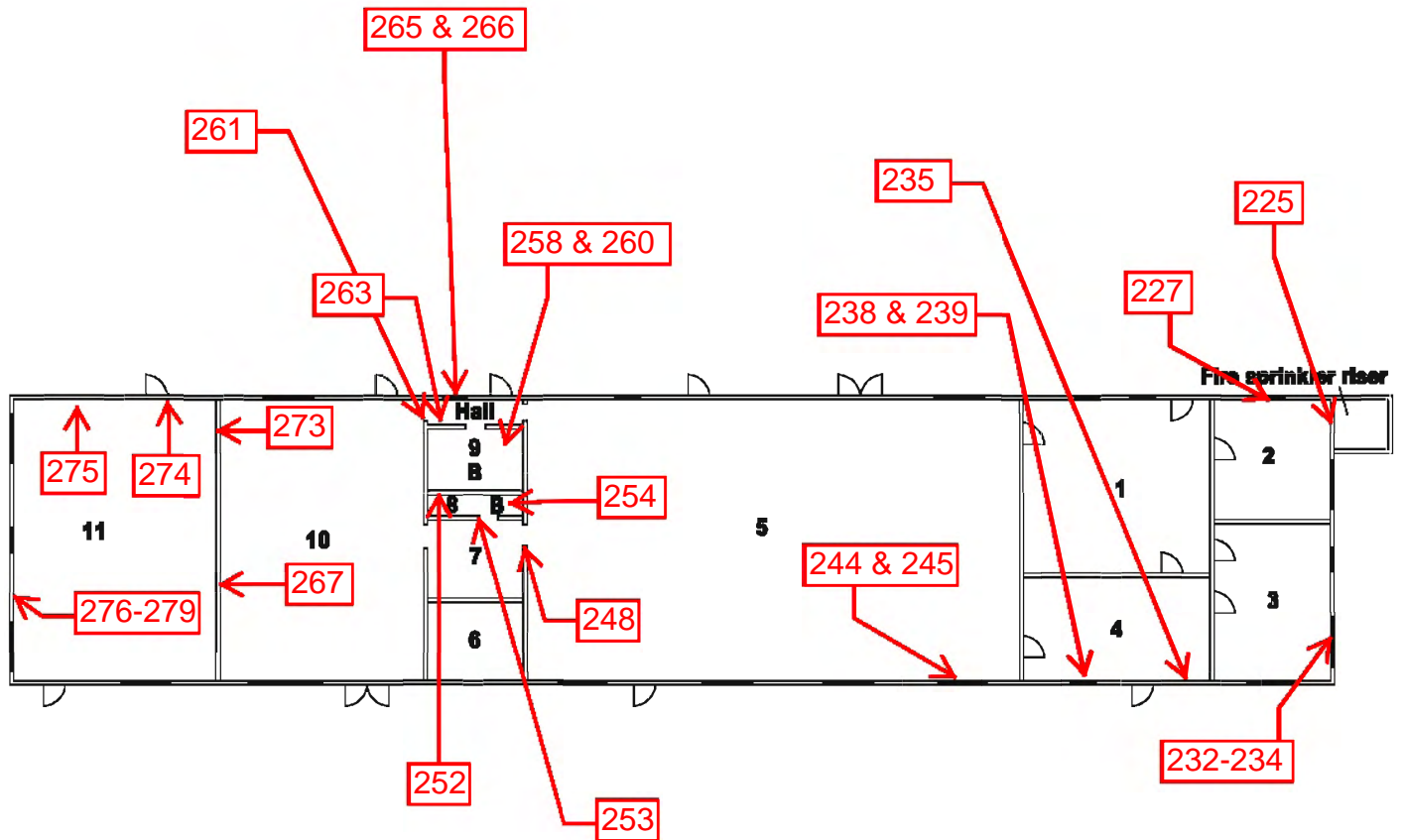
LEGEND

- O** Office
- B** Bathroom
- PR** Parts room
- S** Storage
- C** Classroom
- 1** Room number

- Window
- Service bay doors
- Concrete post

FIGURE 3 Lead-Based Paint Inspection Building 578

Fort Wolters - TDCJ Property
Cross Post Road/Grant Road
Mineral Wells, TX 76067



Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

MANAGER	APP. DATE	FILE NAME
DAF		CAD\Drawing.dwg-FIG4
APPROX. SCALE	DRAWN	DATE
1"=23'	CS	9/29/10
		PROJECT
		1037503



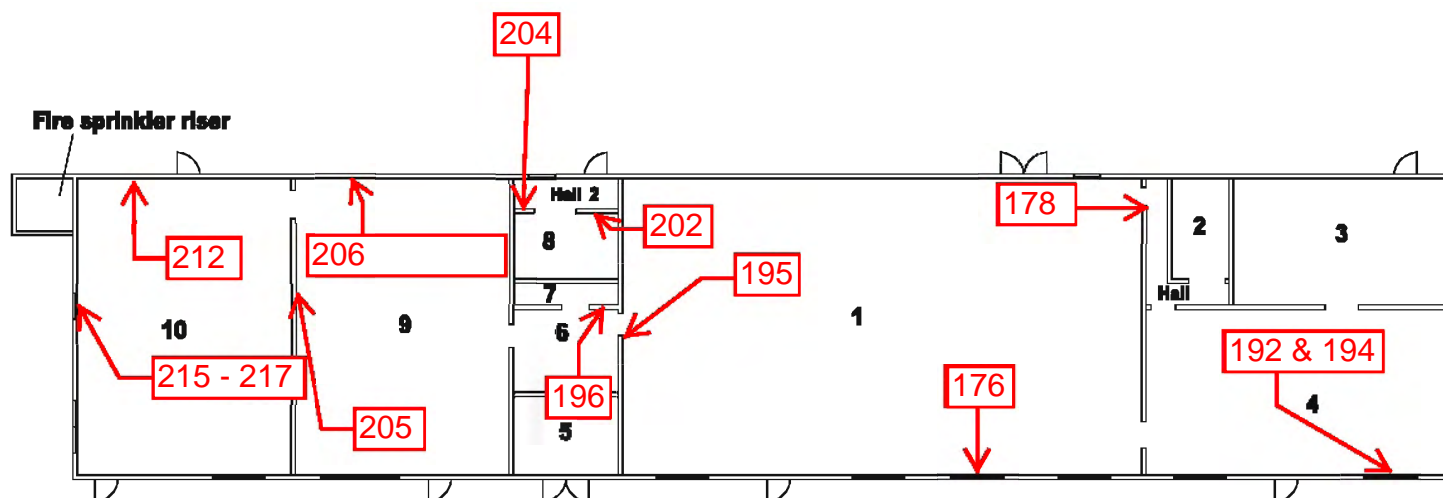
LEGEND

- O Office
- B Bathroom
- PR Parts room
- S Storage
- C Classroom
- 1 Room number

- Window
- Service bay doors
- Concrete post

FIGURE 4 Lead-Based Paint Inspection Building 551

Fort Wolters - TDCJ Property
Cross Post Road/Grant Road
Mineral Wells, TX 76067



Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

MANAGER	APP. DATE	FILE NAME
DAF		CAD\Drawing.dwg-FIG5
APPROX. SCALE	DATE	PROJECT
1"=22'	CS	9/29/10 1037503



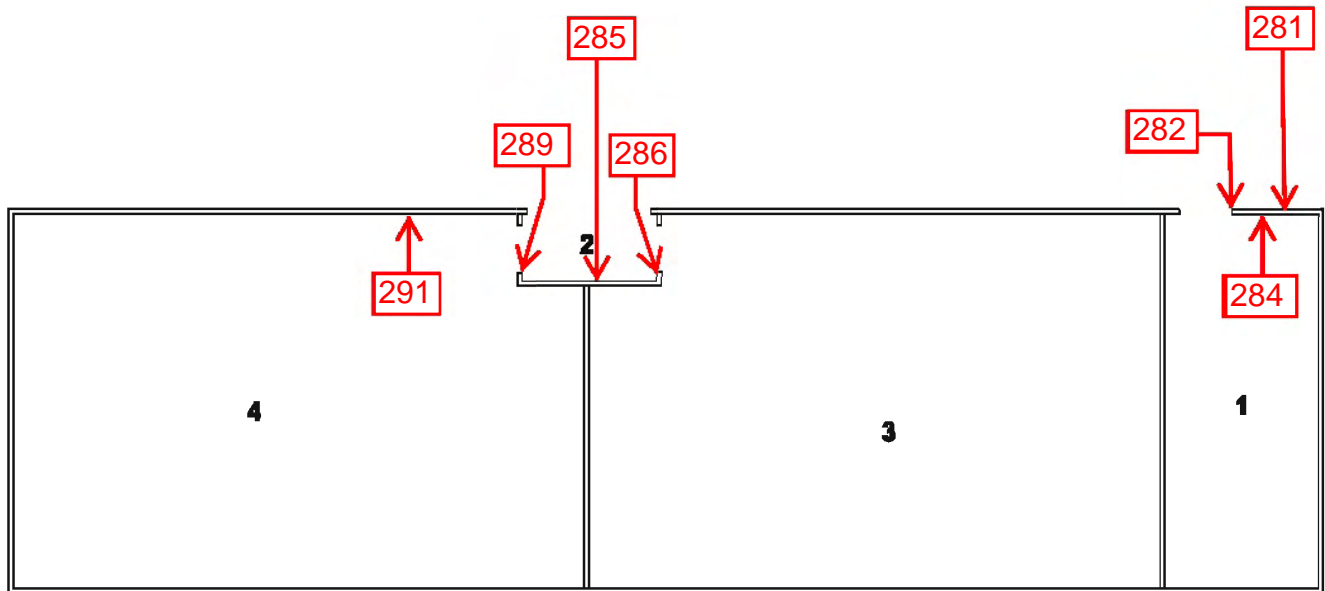
LEGEND

- Office
- Bathroom
- PR Parts room
- S Storage
- C Classroom
- 1 Room number

- ▬ Window
- ▬ Service bay doors
- Concrete post

FIGURE 5 Lead-Based Paint Inspection Building 552

Fort Wolters - TDCJ Property
Cross Post Road/Grant Road
Mineral Wells, TX 76067



Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

MANAGER	APP. DATE	FILE NAME
DAF		CAD\Drawing.dwg-FIG6
APPROX. SCALE	DATE	PROJECT
1"=20'	CS	9/29/10 1037503



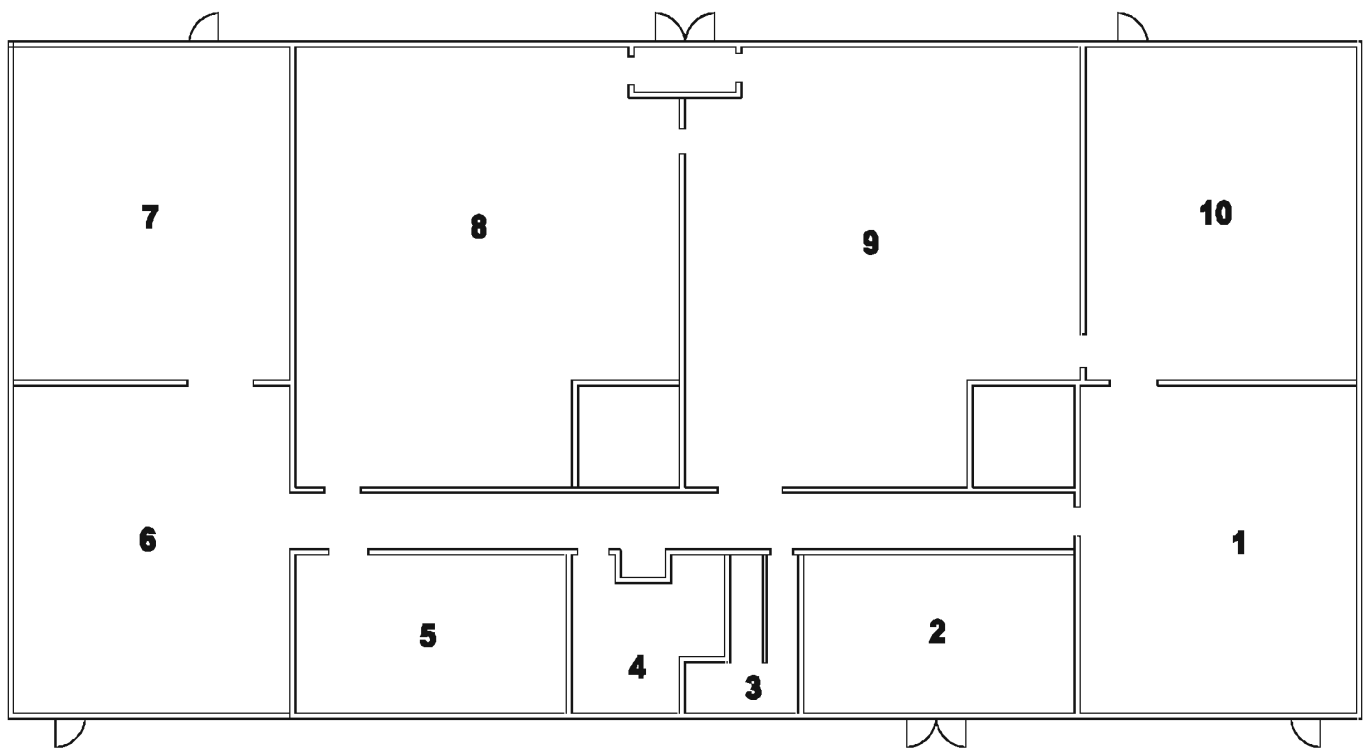
LEGEND

- O Office
- B Bathroom
- PR Parts room
- S Storage
- C Classroom
- 1 Room number

- Window
- Service bay doors
- Concrete post

FIGURE 6 Lead-Based Paint Inspection Building 571

Fort Worthers - TDCJ Property
Cross Post Road/Grant Road
Mineral Wells, TX 76067



Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

MANAGER	APP. DATE	FILE NAME	
DAF		CAD\Drawing.dwg-FIG7	
APPROX. SCALE	DRAWN	DATE	PROJECT
1"=17'	CS	9/29/10	1037503



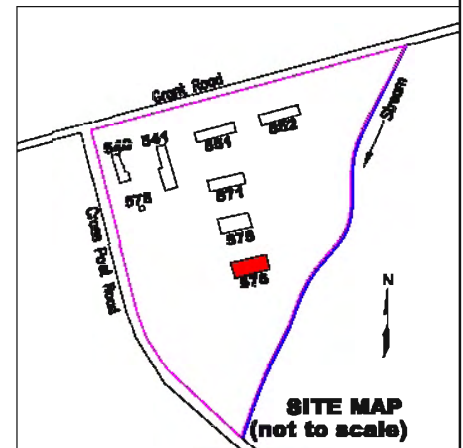
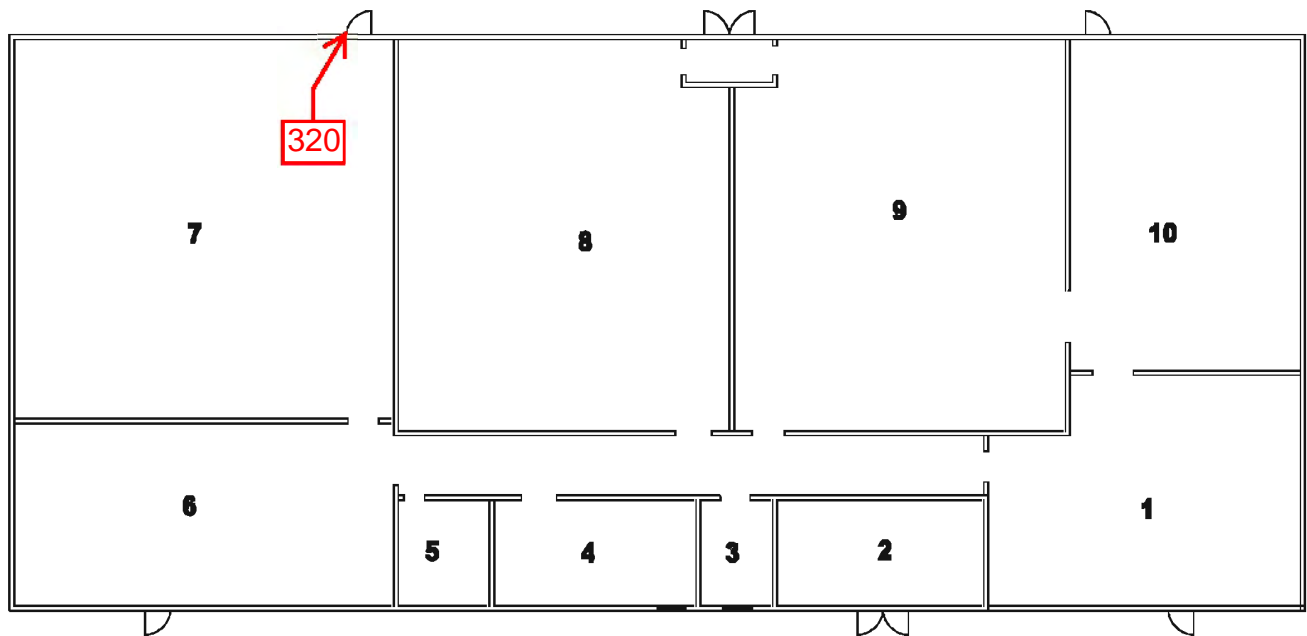
LEGEND

- O Office
- B Bathroom
- PR Parts room
- A Storage
- C Classroom
- 1 Room number

- Window
- Service bay doors
- Concrete post

FIGURE 7 Lead-Based Paint Inspection Building 575

Fort Wolters - TDCJ Property
Cross Post Road/Grant Road
Mineral Wells, TX 76067



Dougherty Sprague Environmental, Inc.
3902 Industrial Street, Suite A
Rowlett, Texas 75088

MANAGER	APP. DATE	FILE NAME
DAF		CAD\Drawing.dwg-FIG8
APPROX. SCALE	DATE	PROJECT
1"=20'	CS	9/29/10 1037503



LEGEND

- O Office
- B Bathroom
- PR Parts room
- S Storage
- C Classroom
- 1 Room number

- Window
- Service bay doors
- Concrete post

FIGURE 8 Lead-Based Paint Inspection Building 576

Fort Wolters - TDCJ Property
Cross Post Road/Grant Road
Mineral Wells, TX 76067

APPENDIX E

LEAD-BASED PAINT ABATEMENT COST ESTIMATE

**FORT WOLTERS TDCJ PROPERTY
LEAD-BASED PAINT ABATEMENT COST ESTIMATE**

Abatement Location	LBP Substrate	Estimated Quantity (ft/ft ²)	Removal Method	Cost Estimate (\$)
Building 578 - Exterior	metal - eave (exterior)	20	Recycle	200
Building 578 - Exterior	metal - door	36	Recycle	200
Building 578 - Room 2	metal - door	20	Recycle	200
Building 578 - Room 2	drywall - wall	210	Disposal	2,500
Building 540 - Wood Building (inside metal)	wood - window frame	30	Dispose	100
Building 540 - Wood Building (inside metal)	wood - window sill	12	Dispose	50
Building 540 - Wood Building (inside metal)	wood - window sash	12	Dispose	50
Building 540 - Wood Building	wood - bay door (exterior)	720	Dispose	250
Building 540 - Wood Building	metal - bay door frame (exterior)	90	Recycle	250
Building 540 - Wood Building	wood - window frame (exterior)	9	Dispose	100
Building 540 - Wood Building	wood - door (exterior)	16	Dispose	200
Building 540 - Wood Building	wood - door frame (exterior)	9	Dispose	50
Building 540 - Wood Building-Office	drywall - lower wall	152	Dispose	2,500
Building 540 - Wood Building-Office	wood - window frame	9	Dispose	100
Building 540 - Wood Building-Office	wood - window sill	5	Dispose	50
Building 540 - Wood Building-Office	wood - window sash	3	Dispose	50
Building 540 - Wood Building-Office	wood- door	18	Dispose	200
Building 540 - Wood Building-Office	wood - door frame	9	Dispose	50
Building 540 - Wood Building-Garage	metal - post	90	Dispose	1,800
Building 540 - Wood Building-Garage	wood - bay door	720	Dispose	250
Building 540 - Wood Building-Parts Room	wood - door frame	9	Dispose	200
Building 540 - Wood Building-Parts Room	drywall - lower wall - green	34	Disposal	500
Building 540 - Wood Building-Parts Room	drywall - lower wall - blue	182	Disposal	2,000
Building 540 - Wood Building-Parts Room	drywall - lower wall	50	Disposal	500
Building 540 - Wood Building-Parts Room	wood - window frame	7	Dispose	100
Building 540 - Wood Building-Parts Room	wood - window sill	3	Dispose	50
Building 540 - Wood Building-Parts Room	wood - window sash	3	Dispose	50
Building 540 - Wood Building-Bathroom	drywall - upper wall	152	Disposal	1,800
Building 540 - Wood Building-Bathroom	drywall - lower wall	152	Disposal	1,800
Building 540 - Wood Building-Bathroom	wood - window sill	3	Dispose	50
Building 541 - Wood Building (inside metal)	metal - bay door frame (exterior)	72	Recycle	250
Building 541 - Wood Building (inside metal)	metal - post	96	Recycle	1,800
Building 541 - Wood Building (inside metal)	metal - post	96	Recycle	1,800
Building 541 - Metal Building	wood - window frame	30	Dispose	100
Building 541 - Metal Building	wood - window sill	12	Dispose	50
Building 541 - Metal Building	wood - window sash	6	Dispose	50
Building 541 - Wood Building	wood - door frame	9	Dispose	200
Building 541 - Wood Building	wood - window sash	3	Dispose	50
Building 541 - Wood Building	metal - bay door frame (exterior)	90	Recycle	50
Building 541 - Wood Building	wood - bay door (exterior)	720	Dispose	250
Building 541 - Wood Building	metal - post	96	Recycle	1,800
Building 541 - Wood Building-Office	drywall - wall	312	Dispose	1,500
Building 541 - Wood Building-Rm. 2	drywall - ceiling	260	Dispose	1,000
Building 541 - Wood Building-Rm. 2	wood - cubby	650	Dispose	1,000
Building 541 - Wood Building-Rm. 2	wood - window frame	14	Dispose	100
Building 541 - Wood Building-Rm. 2	wood - window sill	3	Dispose	50
Building 541 - Wood Building-Bathroom	drywall - wall	320	Dispose	1,500
Building 541 - Wood Building-Garage	wood - bay door	720	Dispose	250
Building 541 - Wood Building-Garage	metal - post	96	Recycle	1,800
Building 552 - Room 1	wood - window sash	12	Dispose	50
Building 552 - Hallway 1	wood - door frame	9	Dispose	50
Building 552 - Room 4	wood - window frame	18	Dispose	50
Building 552 - Room 4	wood - window sash	5	Dispose	50
Building 552 - Room 6	wood - door frame	10	Dispose	50
Building 552 - Room 6	drywall - wall	344	Dispose	1,500
Building 552 - Room 8	drywall wall	312	Dispose	1,500
Building 552 - Hallway 2	drywall - wall	248	Dispose	1,200
Building 552 - Room 9	drywall - wall	936	Dispose	3,500
Building 552 - Room 9	wood - window frame	27	Dispose	100
Building 552 - Room 10	drywall - wall	936	Dispose	3,500
Building 552 - Room 10	wood - window frame	45	Dispose	100
Building 552 - Room 10	wood - window sill	18	Dispose	50
Building 552 - Room 10	wood - window sash	10	Dispose	50

**FORT WOLTERS TDCJ PROPERTY
LEAD-BASED PAINT ABATEMENT COST ESTIMATE**

Abatement Location	LBP Substrate	Estimated Quantity (ft/ft ²)	Removal Method	Cost Estimate (\$)
Building 551 - Room 2	drywall - upper wall	228	Dispose	1,500
Building 551 - Room 2	wood - window frame	17	Dispose	100
Building 551 - Room 3	wood - window frame	45	Dispose	150
Building 551 - Room 3	wood - window sill	15	Dispose	50
Building 551 - Room 3	wood - window sash	10	Dispose	50
Building 551 - Room 4	drywall - wall	560	Dispose	2,200
Building 551 - Room 4	wood - window frame	9	Dispose	100
Building 551 - Room 4	wood - window sill	3	Dispose	50
Building 551 - Room 5	drywall - wall	1,496	Dispose	3,500
Building 551 - Room 5	wood - window sill	100	Dispose	50
Building 551 - Room 5	wood - window sash	20	Dispose	50
Building 551 - Room 7	wood - door frame	8	Dispose	100
Building 551 - Room 8	drywall - wall	224	Dispose	1,500
Building 551 - Room 8	drywall - ceiling	30	Dispose	100
Building 551 - Room 8	wood - stall door	75	Dispose	100
Building 551 - Room 9	wood - stall door	75	Dispose	100
Building 551 - Hallway	wood - door frame	8	Dispose	50
Building 551 - Hallway	drywall - wall	232	Dispose	1,500
Building 551 - Hallway	wood - window sill	3	Dispose	50
Building 551 - Hallway	wood	2	Dispose	50
Building 551 - Room 10	drywall	936	Dispose	3,500
Building 551 - Room 10	wood - window frame	45	Dispose	100
Building 551 - Room 10	wood - window sill	15	Dispose	50
Building 551 - Room 10	wood - window sash	10	Dispose	50
Building 551 - Room 11	wood - door	36	Dispose	100
Building 551 - Room 11	wood - door frame	8	Dispose	50
Building 551 - Room 11	drywall - wall	936	Dispose	3,500
Building 551 - Room 11	wood - window frame	70	Dispose	100
Building 551 - Room 11	wood - window sill	21	Dispose	50
Building 551 - Room 11	wood - window sash	12	Dispose	50
Building 571 - Exterior	CMU - wall (exterior)	2,832	Dispose	9,800
Building 571 - Room 1	wood - door frame	10	Dispose	100
Building 571 - Room 1	CMU - wall	880	Dispose	4,364
Building 571 - Room 2	CMU - wall	340	Dispose	1,686
Building 571 - Room 3	wood - door frame	10	Dispose	100
Building 571 - Room 4	wood - door frame	10	Dispose	100
Building 571 - Room 4	CMU - wall	1,580	Dispose	6,300
Building 576 - Room 7	metal - door frame	10	Recycle	100

TOTAL 83,000

AIR MONITORING / PROJECT MANAGMENT COSTS

Mileage	0.50 mile	1500	750
AMT/day	600 day	20	12,000
LRA	100 hour	30	3,000
Per Diem	46 day	20	920
Lodging	77 day	20	1,540
Spec	5,000 lump	1	5,000

TOTAL 23,210

Disposal Assumes Waste is Accepted at a Cat. II Landfill.

GRAND TOTAL 106,210

APPENDIX F

LEAD XRF RESULTS LOG

LEAD XRF RESULTS LOG - 9/21/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 578

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
1	Standardization						PASS
2	Exterior	Exterior	Eave	metal		3.07	Positive
3	Exterior	Door	Door	metal		1.71	Positive
4	Exterior	Window	Frame	metal		0.05	Negative
5	Exterior	Window	Window	glass		0.05	Negative
6	Room 1	Door	Door	metal		0.25	Negative
7	Room 1	Door	Frame	metal		0.03	Negative
8	Room 1	Room	Upper Wall	drywall	B	0.01	Negative
9	Room 1	Room	Lower Wall	drywall	B	0.02	Negative
10	Room 1	Room	Cabinet	wood	B	0.00	Negative
11	Room 2	Door	Door - exterior	metal		1.48	Positive
12	Room 2	Door	Door - interior	metal		0.22	Negative
13	Room 2	Room	Wall	drywall	B	2.99	Positive
14	Room 2	Room	Ceiling	drywall		0.01	Negative
15	Room 2	Window	Sill	wood	B	0.52	Negative
16	Room 3	Door	Door	wood		0.09	Negative
17	Room 3	Door	Frame	wood		0.76	Negative
18	Room 3	Room	Upper Wall	drywall	A	0.03	Negative
19	Room 3	Room	Lower Wall	drywall	A	0.02	Negative
20	Room 3	Room	Ceiling	drywall		0.02	Negative
21	Room 3-*QA	Room	Ceiling	drywall		0.04	Negative

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

* Performed retesting for quality assurance

LEAD XRF RESULTS LOG - 9/21/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 540

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
22	Standardization						PASS
23	Metal Building	Exterior	Wall	metal		0.01	Negative
24	Metal Building	Exterior	Bay Door	metal		0.04	Negative
25	Metal Building	Exterior	Post	metal		0.81	Negative
26	Metal Building	Exterior	Door - exterior	metal		0.00	Negative
27	Metal Building	Exterior	Door - interior	metal		0.03	Negative
28	Metal Building	Exterior	Door Frame	wood		0.02	Negative
29	Metal Building	Window	Frame	wood		4.54	Positive
30	Metal Building	Window	Sill	wood		4.42	Positive
31	Metal Building	Window	Sash	wood		4.69	Positive
32	Metal Building	Room	Post	metal		0.97	Negative
33	Wood Building	Exterior	Bay Door	wood		4.11	Positive
34	Wood Building	Exterior	Bay Door Frame	metal		5.00	Positive
35	Wood Building	Exterior	Window Frame	wood		5.00	Positive
36	Wood Building	Exterior	Door	wood		4.72	Positive
37	Wood Building	Exterior	Door Frame	wood		4.45	Positive
38	Wood Building-Office	Room	Upper Wall	drywall	A	0.45	Negative
39	Wood Building-Office	Room	Lower Wall	drywall	A	1.00	Positive
40	Wood Building-Office	Window	Frame	wood	B	1.36	Positive
41	Wood Building-Office	Window	Sill	wood	B	1.53	Positive
42	Wood Building-Office	Window	Sash	wood	B	1.05	Positive
43	Wood Building-Office-*QA	Window	Sash	wood	B	1.25	Positive
44	Wood Building-Office	Door	Door	wood		1.09	Positive
45	Wood Building-Office	Door	Frame	wood		1.12	Positive
46	Wood Building-Garage	Room	Lower Wall	wood	A	0.13	Negative
47	Wood Building-Garage	Room	Cabinet Frame	wood		0.17	Negative
48	Wood Building-Garage	Room	Cabinet Door	wood		0.01	Negative
49	Wood Building-Garage	Room	Upper Wall	drywall	C	0.28	Negative
50	Wood Building-Garage	Room	Lower Wall	drywall	D	0.43	Negative
51	Wood Building-Garage	Room	Post	metal		1.21	Positive
52	Wood Building-Garage-*QA	Room	Post	metal		1.15	Positive
53	Wood Building-Garage	Door	Bay Door	wood		1.52	Positive
54	Wood Building-Parts Room	Door	Frame	wood		1.32	Positive

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

* Performed retesting for quality assurance

LEAD XRF RESULTS LOG - 9/21/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 540

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
55	Wood Building-Parts Room	Room	Upper Wall	drywall	A	0.19	Negative
56	Wood Building-Parts Room	Room	Lower Wall - blue	drywall	A	1.15	Positive
57	Wood Building-Parts Room	Room	Lower Wall - green	drywall	A	1.06	Positive
58	Wood Building-Parts Room	Room	Upper Wall	wood	B	0.37	Negative
59	Wood Building-Parts Room	Room	Lower Wall	wood	B	1.55	Positive
60	Wood Building-Parts Room	Window	Frame	wood		5.00	Positive
61	Wood Building-Parts Room	Window	Sill	wood		5.00	Positive
62	Wood Building-Parts Room	Window	Sash	wood		5.00	Positive
63	Wood Building-Parts Room	Room	Ceiling	drywall		0.36	Negative
64	Wood Building-Parts Room	Room	Shelf - blue	wood		0.30	Negative
65	Wood Building-Parts Room	Room	Shelf - gray	wood		0.39	Negative
66	Wood Building-Garage	Door	Back Door	metal		0.09	Negative
67	Wood Building-Garage	Door	Back Door Frame	wood		0.00	Negative
68	Wood Building-Bathroom	Door	Door	wood		0.49	Negative
69	Wood Building-Bathroom	Door	Frame	wood		0.76	Negative
70	Wood Building-Bathroom	Room	Upper Wall	drywall	B	1.00	Positive
71	Wood Building-Bathroom	Room	Lower Wall	drywall	B	1.00	Positive
72	Wood Building-Bathroom	Window	Frame	wood		0.72	Negative
73	Wood Building-Bathroom	Window	Sill	wood		1.05	Positive
74	Wood Building-Bathroom	Window	Sash	wood		0.91	Negative
75	Wood Building-Garage	Room	Stairs	wood		0.03	Negative

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

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LEAD XRF RESULTS LOG - 9/21/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 541

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
76	Standardization						PASS
77	Metal Building	Exterior	Bay Door Frame	metal		2.59	Positive
78	Metal Building	Exterior	Post	metal		3.84	Positive
79	Metal Building	Exterior	Door	metal		0.07	Negative
80	Metal Building	Exterior	Door Frame	metal		0.06	Negative
81	Metal Building	Room	Cabinet Frame	wood	A	0.07	Negative
82	Metal Building	Room	Cabinet Door	wood	A	0.07	Negative
83	Metal Building	Room	Post	metal		1.74	Positive
84	Metal Building	Room	Upper Building Support	metal	C	0.02	Negative
85	Metal Building	Room	Lower Building Support	metal	C	0.02	Negative
86	Metal Building	Window	Frame	wood	D	3.84	Positive
87	Metal Building	Window	Sill	wood	D	5.00	Positive
88	Metal Building	Window	Sash	wood	D	4.49	Positive
89	Metal Building	Door	Door	wood	D	0.07	Negative
90	Metal Building	Door	Frame	wood	D	0.07	Negative
91	Metal Building-*QA	Door	Frame	wood	D	0.05	Negative
92	Wood Building	Exterior	Door	wood		0.14	Negative
93	Wood Building	Exterior	Door Frame	wood		4.71	Positive
94	Wood Building	Exterior	Window Sash	wood		3.03	Positive
95	Wood Building	Exterior	Bay Door Frame	metal		5.00	Positive
96	Wood Building	Exterior	Bay Door	wood		4.55	Positive
97	Wood Building	Exterior	Post	metal		5.00	Positive
98	Wood Building-Office	Room	Wall	drywall	C	1.00	Positive
99	Wood Building-Office	Window	Frame	wood	C	0.46	Negative
100	Wood Building-Office	Door	Door	wood		0.48	Negative
101	Wood Building-Office	Door	Frame	wood		0.56	Negative
102	Wood Building-Rm. 2	Room	Upper Wall	drywall	A	0.35	Negative
103	Wood Building-Rm. 2	Room	Lower Wall	drywall	A	0.78	Negative
104	Wood Building-Rm. 2	Room	Ceiling	drywall		1.00	Positive
105	Wood Building-Rm. 2	Room	Cubby	wood	C	1.26	Positive
106	Wood Building-Rm. 2	Window	Frame	wood	A	1.13	Positive

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LEAD XRF RESULTS LOG - 9/21/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 541

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
107	Wood Building-Rm. 2	Window	Sill	wood	A	1.10	Positive
108	Wood Building-Rm. 2	Window	Sash	wood	A	0.76	Negative
109	Wood Building-Bathroom	Door	Door	wood		0.70	Negative
110	Wood Building-Bathroom	Door	Frame	wood		0.81	Negative
111	Wood Building-Bathroom-*QA	Door	Frame	wood		0.74	Negative
112	Wood Building-Bathroom	Room	Wall	drywall	C	1.00	Positive
113	Wood Building-Bathroom	Window	Frame	wood		0.32	Negative
114	Wood Building-Bathroom	Window	Sash	wood		0.23	Negative
115	Wood Building-Garage	Room	Bay Door	wood	B	1.76	Positive
116	Wood Building-Garage	Room	Post	metal	B	5.00	Positive
117	Wood Building-Garage	Room	Wall	drywall	C	0.07	Negative
118	Wood Building-Garage	Room	Stairs	wood	C	0.04	Negative
119	Wood Building-Garage	Door	Frame	wood	D	0.00	Negative
120	Wood Building-Garage	Door	Door	metal	D	0.14	Negative
121	Wood Building-Garage	Room	Cabinet Frame	wood	D	0.18	Negative
122	Wood Building-Garage	Room	Cabinet Door	wood	D	0.01	Negative
123	Wood Building-Garage-*QA	Room	Cabinet Door	wood	D	0.02	Negative

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

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LEAD XRF RESULTS LOG - 9/21/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 575

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
124	Standardization						PASS
125	Exterior	Exterior	Door	metal		0.16	Negative
126	Exterior	Exterior	Frame	metal		0.07	Negative
127	Room 1	Room	Wall	drywall	A	0.00	Negative
128	Hallway	Room	Wall	drywall	D	0.00	Negative
129	Room 3	Door	Door	wood		0.05	Negative
130	Room 3	Door	Frame	wood		0.01	Negative
131	Room 3	Room	Wall	drywall	D	0.02	Negative
132	Room 3	Room	Frame	wood	D	0.05	Negative
133	Room 3	Room	Ceiling	drywall		0.00	Negative
134	Room 3 Closet	Door	Frame	wood		0.06	Negative
135	Room 3 Closet	Room	Upper Wall	drywall	A	0.00	Negative
136	Room 3 Closet	Room	Lower Wall	drywall	A	0.03	Negative
137	Room 3 Closet	Room	Shelf	wood	B	0.03	Negative
138	Room 4	Room	Wall	drywall	B	0.09	Negative
139	Room 4	Room	Frame on Wall	wood	B	0.04	Negative
140	Room 4	Door	Door	wood		0.07	Negative
141	Room 4	Door	Frame	wood		0.03	Negative
142	Room 5	Door	Frame	wood		0.02	Negative
143	Room 5	Room	Wall	drywall	C	0.01	Negative
144	Room 5-*QA	Room	Wall	drywall	C	0.01	Negative
145	Room 5	Room	Ceiling	drywall		0.00	Negative
146	Room 6	Room	Wall	drywall	B	0.00	Negative
147	Room 6	Door	Door	metal		0.12	Negative
148	Room 6	Door	Frame	metal		0.03	Negative
149	Room 7	Room	Wall	drywall	B	0.00	Negative
150	Room 7	Door	Door	wood		0.02	Negative
151	Room 7	Door	Frame	wood		0.05	Negative
152	Room 8	Room	Wall	drywall	A	0.00	Negative
153	Room 8	Room	Frame on Wall	wood	A	0.00	Negative
154	Room 9	Room	Wall	drywall	A	0.00	Negative
155	Room 9	Door	Frame	wood	A	0.04	Negative

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

* Performed retesting for quality assurance

LEAD XRF RESULTS LOG - 9/21/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 575

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
156	Room 9	Door	Door	wood	A	0.06	Negative
157	Room 10	Room	Wall	drywall	B	0.00	Negative
158	Room 10	Door	Door	wood	B	0.06	Negative
159	Room 10	Door	Frame	wood	B	0.05	Negative
160	Room 10-*QA	Door	Frame	wood	B	0.03	Negative

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

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LEAD XRF RESULTS LOG - 9/22/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 552

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
170	Standardization						PASS
171	Room 1	Door	Door	metal		0.12	Negative
172	Room 1	Door	Frame	metal		0.00	Negative
173	Room 1	Room	Wall	drywall	A	0.00	Negative
174	Room 1	Window	Frame	wood		0.05	Negative
175	Room 1	Window	Sill	wood		0.06	Negative
176	Room 1	Window	Sash	wood		1.52	Positive
177	Hallway 1	Door	Door	wood		0.41	Negative
178	Hallway 1	Door	Frame	wood		1.22	Positive
179	Hallway 1	Room	Wall	drywall	A	0.01	Negative
180	Hallway 1	Room	Frame on Wall	wood	C	0.06	Negative
181	Room 2	Room	Wall	drywall	B	0.00	Negative
182	Room 2	Door	Frame	wood		0.00	Negative
183	Room 3	Door	Door	wood		0.13	Negative
184	Room 3	Door	Frame	wood		0.07	Negative
185	Room 3	Window	Frame	wood	A	0.11	Negative
186	Room 3	Window	Sill	wood	A	0.04	Negative
187	Room 3	Window	Sash	wood	A	0.82	Negative
188	Room 4	Room	Wall	drywall	C	0.00	Negative
189	Room 4	Door	Door	metal	A	0.11	Negative
190	Room 4-*QA	Door	Door	metal	A	0.08	Negative
191	Room 4	Door	Frame	wood		0.00	Negative
192	Room 4	Window	Frame	wood		1.60	Positive
193	Room 4	Window	Sill	wood		0.00	Negative
194	Room 4	Window	Sash	wood		1.34	Positive
195	Room 6	Door	Frame	wood		2.21	Positive
196	Room 6	Room	Wall	drywall	B	1.00	Positive
197	Room 7	Door	Frame	wood		0.27	Negative
198	Room 7	Room	Wall	drywall	A	0.06	Negative
199	Room 7	Room	Ceiling	drywall		0.01	Negative

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

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LEAD XRF RESULTS LOG - 9/22/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 552

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
200	Room 8	Door	Frame	wood		0.33	Negative
201	Room 8	Door	Door	wood		0.24	Negative
202	Room 8	Room	Wall	drywall	C	1.00	Positive
203	Room 8	Room	Bathroom Stall	wood		0.30	Negative
204	Hallway 2	Room	Wall	drywall	B	1.00	Positive
205	Room 9	Room	Wall	drywall	A	1.00	Positive
206	Room 9	Window	Frame	wood	B	1.14	Positive
207	Room 9	Window	Sill	wood	B	0.24	Negative
208	Room 9	Window	Sash	wood	B	0.02	Negative
209	Room 9	Door	Door	metal	B	0.12	Negative
210	Room 9-*QA	Door	Door	metal	B	0.12	Negative
211	Room 9	Door	Frame	wood	B	0.00	Negative
212	Room 10	Room	Wall	drywall	B	1.00	Positive
213	Room 10	Door	Door	metal	B	0.09	Negative
214	Room 10	Door	Frame	metal	B	0.00	Negative
215	Room 10	Window	Frame	wood	A	1.98	Positive
216	Room 10	Window	Sill	wood	A	1.77	Positive
217	Room 10	Window	Sash	wood	A	1.72	Positive
218	Room 10	Room	Frame on Wall	wood	A	0.32	Negative

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

* Performed retesting for quality assurance

LEAD XRF RESULTS LOG - 9/22/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 551

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
219	Standardization						PASS
220	Room 1	Door	Door	metal	C	0.09	Negative
221	Room 1	Door	Frame	metal	C	0.00	Negative
222	Room 1	Room	Wall	drywall	C	0.21	Negative
223	Room 1	Room	Wall	drywall	D	0.24	Negative
224	Room 2	Door	Frame	wood		0.34	Negative
225	Room 2	Room	Upper Wall	drywall	A	1.00	Positive
226	Room 2	Room	Lower Wall	wood	A	0.34	Negative
227	Room 2	Window	Frame	wood	D	1.28	Positive
228	Room 2	Window	Sill	wood	D	0.38	Negative
229	Room 2	Window	Sash	wood	D	0.75	Negative
230	Room 3	Door	Frame	wood		0.57	Negative
231	Room 3	Room	Wall	drywall	A	0.65	Negative
232	Room 3	Window	Frame	wood	A	1.74	Positive
233	Room 3	Window	Sill	wood	A	1.80	Positive
234	Room 3	Window	Sash	wood	A	1.19	Positive
235	Room 4	Room	Wall	drywall	A	1.00	Positive
236	Room 4	Door	Door	metal	A	0.18	Negative
237	Room 4	Door	Frame	metal	A	0.00	Negative
238	Room 4	Window	Frame	wood		1.54	Positive
239	Room 4	Window	Sill	wood		1.70	Positive
240	Room 4	Window	Sash	wood		0.87	Negative
241	Room 4-*QA	Window	Sash	wood		0.52	Negative
242	Room 5	Room	Wall	drywall	D	1.00	Positive
243	Room 5	Window	Frame	wood		0.87	Negative
244	Room 5	Window	Sill	wood		1.47	Positive
245	Room 5	Window	Sash	wood		1.03	Positive
246	Room 5	Door	Door	metal	B	0.24	Negative
247	Room 5	Door	Frame	metal	B	0.00	Negative
248	Room 7	Door	Door	wood		1.30	Positive
249	Room 7	Door	Frame	wood		0.71	Negative

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

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LEAD XRF RESULTS LOG - 9/22/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 551

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
250	Room 7	Room	Wall	drywall	B	0.45	Negative
251	Room 8	Door	Frame	wood		0.29	Negative
252	Room 8	Room	Wall	drywall	A	1.00	Positive
253	Room 8	Room	Ceiling	drywall		1.00	Positive
254	Room 8	Room	Stall Door	wood		1.22	Positive
255	Room 9	Door	Door	wood		0.64	Negative
256	Room 9	Door	Frame	wood		0.37	Negative
257	Room 9	Room	Wall	drywall	C	0.11	Negative
258	Room 9	Room	Stall	wood		1.00	Positive
259	Room 9-*QA	Room	Stall	wood		0.39	Negative
260	Room 9-*QA	Room	Stall	wood		1.00	Positive
261	Hallway	Door	Frame	wood		2.86	Positive
262	Hallway	Door	Door	wood		0.35	Negative
263	Hallway	Room	Wall	drywall	B	1.00	Positive
264	Hallway	Window	Frame	wood		0.99	Negative
265	Hallway	Window	Sill	wood		1.51	Positive
266	Hallway	Window	Sash	wood		1.41	Positive
267	Room 10	Room	Wall	drywall	A	1.00	Positive
268	Room 10	Window	Frame	wood		1.94	Positive
269	Room 10	Window	Sill	wood		1.28	Positive
270	Room 10	Window	Sash	wood		1.14	Positive
271	Room 10	Door	Door	metal	D	0.07	Negative
272	Room 10	Door	Frame	metal	D	0.00	Negative
273	Room 11	Door	Door	wood	C	1.66	Positive
274	Room 11	Door	Frame	wood	C	2.27	Positive
275	Room 11	Room	Wall	drywall	C	1.00	Positive
276	Room 11	Window	Frame	wood	A	2.57	Positive
277	Room 11	Window	Sill	wood	A	1.39	Positive
278	Room 11	Window	Sash	wood	A	1.58	Positive
279	Room 11-*QA	Window	Sash	wood	A	1.38	Positive

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

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LEAD XRF RESULTS LOG - 9/22/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 571

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
280	Standardization						PASS
281	Exterior	Exterior	Wall	concrete		2.41	Positive
282	Room 1	Door	Frame	wood		1.70	Positive
283	Room 1	Room	Wall	plaster	C	0.01	Negative
284	Room 1	Room	Wall	concrete	C	1.00	Positive
285	Room 2	Room	Wall	concrete	A	1.00	Positive
286	Room 3	Door	Frame	wood		1.47	Positive
287	Room 3	Room	Wall	concrete	D	0.04	Negative
288	Room 3	Room	Wall	concrete	C	0.11	Negative
289	Room 4	Door	Frame	wood		1.94	Positive
292	Room 4	Room	Wall	plaster	B	0.04	Negative
291	Room 4	Room	Wall	concrete	B	1.00	Positive

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

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LEAD XRF RESULTS LOG - 9/22/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 576

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
292	Standardization						PASS
293	Room 1	Door	Door	metal		0.07	Negative
294	Room 1	Door	Frame	metal		0.04	Negative
295	Room 1	Room	Wall	drywall	A	0.00	Negative
296	Room 1	Room	Wall	metal	C	0.05	Negative
297	Room 1	Room	Wall	concrete	D	0.00	Negative
298	Room 1	Room	Support Post	metal	C	0.06	Negative
299	Hallway	Room	Wall	drywall	D	0.00	Negative
300	Hallway	Room	Ceiling	drywall		0.00	Negative
301	Room 3	Door	Frame	wood		0.00	Negative
302	Room 3	Room	Upper Wall	drywall	D	0.01	Negative
303	Room 3	Room	Lower Wall	drywall	D	0.03	Negative
304	Room 3	Room	Stall	metal		0.08	Negative
305	Room 3	Room	Ceiling	drywall		0.01	Negative
306	Room 4	Door	Door	wood		0.08	Negative
307	Room 4	Door	Frame	wood		0.03	Negative
308	Room 4	Room	Upper Wall	drywall	C	0.02	Negative
309	Room 4	Room	Lower Wall	drywall	C	0.01	Negative
310	Room 4	Room	Ceiling	drywall		0.01	Negative
311	Room 5	Door	Door	wood		0.05	Negative
312	Room 5-*QA	Door	Door	wood		0.05	Negative
313	Room 5	Door	Frame	wood		0.06	Negative
314	Room 5	Room	Wall	drywall	A	0.01	Negative
315	Room 5	Room	Wall	drywall	B	0.00	Negative
316	Room 6	Door	Frame	wood		0.07	Negative
317	Room 6	Room	Wall	drywall	C	0.00	Negative
318	Room 6	Room	Wall	metal	D	0.10	Negative
319	Room 7	Door	Door	metal	A	0.07	Negative
320	Room 7	Door	Frame	metal	A	1.00	Positive
321	Room 7	Room	Wall	metal	A	0.04	Negative

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

* Performed retesting for quality assurance

LEAD XRF RESULTS LOG - 9/22/10
InnovX Systems 6500/Serial #9987
Fort Wolters Texas Department of Criminal Justice Property, Mineral Wells, Texas
Building 576

Sample I.D.	Suite/Room/Area	Feature	Component	Substrate	Wall	Lead Measurement (mg/cm ²)	XRF Classification Result
322	Room 7	Room	Wall	drywall	B	0.00	Negative
323	Room 8	Door	Door	wood		0.04	Negative
324	Room 8	Door	Frame	wood		0.03	Negative
325	Room 8	Room	Wall	metal	A	0.02	Negative
326	Room 8	Room	Wall	drywall	B	0.00	Negative
327	Room 9	Door	Door	wood		0.08	Negative
328	Room 9	Room	Frame	wood		0.07	Negative
329	Room 9	Room	Wall	metal	A	0.05	Negative
330	Room 9	Room	Wall	drywall	D	0.00	Negative
331	Room 10	Door	Frame	wood		0.05	Negative
332	Room 10-*QA	Door	Frame	wood		0.05	Negative
333	Room 10	Room	Wall	drywall	C	0.00	Negative
334	Room 10	Room	Wall	metal	D	0.09	Negative
335	Room 10	Door	Door	metal	D	0.06	Negative
336	Room 10	Door	Frame	metal	D	0.06	Negative

A - Wall opposite entrance door; B - Wall to right of entrance door; C - Wall containing entrance door; D - Wall to left of entrance door

* Performed retesting for quality assurance

APPENDIX G

LEAD RISK ASSESSOR & dse LEAD FIRM LICENSES



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

Be it known that

DEBORAH A FARRIS

is certified to perform as a

Lead Risk Assessor

in the State of Texas and is hereby governed by the rights, privileges and responsibilities set forth in Texas Occupations Code, Chapter 1955 and Title 25, Texas Administrative Code, Chapter 295 relating to Texas Environmental Lead Reduction, as long as this license is not suspended or revoked.

A handwritten signature in black ink, appearing to read "David Lakey MD".

David L. Lakey, M.D.
Commissioner of Health

License Number: 2070717

Expiration Date: 5/26/2011

Void After Expiration Date



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

Be it known that

DOUGHERTY SPRAGUE ENVIRONMENTAL INC

is certified to perform as a

Lead Firm

*in the State of Texas and is hereby governed by the rights, privileges and responsibilities
set forth in Texas Occupations Code, Chapter 1955 and Title 25, Texas Administrative Code, Chapter 295
relating to Texas Environmental Lead Reduction, as long as this license is not suspended or revoked.*

A handwritten signature in dark ink, appearing to read "David Lakey MD".

David L. Lakey, M.D.
Commissioner of Health

License Number: 2110263

Control Number 6093

Expiration Date: 3/12/2011

(Void After Expiration Date)

VOID IF ALTERED

NON-TRANSFERABLE